

How much
MONEY
Do I Need
TO RETIRE?



TODD TRESIDDER

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Praise For **How Much Money Do I Need To Retire?**

This is a great little book to get you on the right track for your retirement goal. It's concise and to-the-point. I recommend it.

David Bates, Publisher – ProtectYourNestEggInRetirement.com

When you finish this book you realize there are many options and alternatives to have the lifestyle and retirement that works for you. It is a practical, hands-on book that cuts through all the clutter. Not only do I have a better understanding of the retirement planning process, I also have renewed hope, energy, and optimism that I can reach my retirement goals in 7 years or less.

D.J. Richoux, Business Owner – Vancouver, Canada

When I hit the “7 Questions” it was like 20 years of investment advice came together. You had me hooked, and the rest of the book was a page turner that I couldn't put down. By the end I realized I could retire now if I really wanted to—22 years earlier than conventional retirement planning.

Dan Cosgrove, CEO – Mercantile Systems, Inc.

Before reading How Much Money Do I Need To Retire? I naively thought this question had a simple answer. Now I understand the many variables that can affect the answer and have a broader view of what retirement can actually look like if you think outside the box. The clarity I got from reading Todd's “Three Rule System” gave me a simplified concept of retirement that actually makes more sense than trying to factor in so many unforeseen and unpredictable variables.

Lisa Cary – Hawaii

This is a great book to get you thinking. The first half helps define the basic concepts while the second half helps even the expert work out real numbers and come up with good workable projections... By applying some of the non-conventional methods in this book you may even be able to retire sooner than you think.

Tim McMahon, Editor – InflationData.Com

Your information cuts through the usual hype, misinformation, and general rip-off artists who disguise themselves as financial planners. You are the first one who has given me an honest appraisal and understanding of this subject. Kudos to you!

Don Hazzard – Hawaii

The information in this book provides the best and most comprehensive answer to the “How Much Do I Need To Retire” question that I've ever read.

Larry C. Weber – Lacey, Washington

**HOW MUCH
MONEY DO I NEED
TO RETIRE?**

60 Minute Financial Solutions

Todd Tresidder

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Other Books In The 60 Minute Financial Solutions Series by Todd Tresidder

The 4% Rule and Safe Withdrawal Rates in Retirement

Variable Annuities: Surprising Truths Your Advisor Won't Tell You

*Investment Fraud: How Financial "Experts" Rip You Off and What To Do
About It*

Don't Hire a Financial Coach! (Until You Read This Book)

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Foreword

“Make everything as simple as possible, but not simpler.”
Albert Einstein

Financial information is just like Goldilocks and the Three Bears. Too much. Too complicated. Too confusing. It is seldom “just right.”

- **Too Short:** The Internet is filled with sound-bite-length half-truths forcing you to waste hours searching repetitive and contradictory articles to uncover the whole truth.
- **Too Long:** The bookstores are filled with hundred-page tomes padded with fluff chapters like “A Brief History of the Financial Markets” and “What Is a Stock?” when all you need is 10 pages of concrete ideas you can put to use.
- **Too Simple:** The financial content mills produce reams of articles for magazines and web sites written by professional writers who aren’t financial experts and lack practical experience.
- **Too Complicated:** Academic journals have great research, but it’s written in an inaccessible style using financial geek-speak so that only a trained expert can decipher the encrypted meaning.

These problems are why I wrote the *60 Minute Financial Solutions* series of books.

Each book provides a concise, definitive answer to an essential financial question that you will inevitably confront on your path to financial security. Each book is a one-stop solution to a single financial issue so you learn exactly what you need to know, when you need to know it.

What you get with each book is the distillation of everything that is valid and the elimination of everything that is not. The goal is to simplify without oversimplifying so you can make an independent, intelligent, and appropriate financial decision—in about 60 minutes.

Best of all, these books are written by a genuine financial expert. I was trained as an economist and I’ve published in the academic world. I also refined my practical knowledge as a hedge fund[\[1\]](#) investment manager for more than a decade with 100% winning years (except one small loss of less than 3%). I

now work as an educator coaching people just like you to achieve their financial goals.

In short, I've spent a lifetime mastering personal finance and investing so you don't have to, and I've condensed all that experience into this solution-oriented series of books. The stuff that works is in these books, and it's provided in straightforward language to make it as accessible as possible.

The goal is to empower you with the knowledge necessary to take charge of your finances and achieve your goals. Personal finance doesn't have to be complicated. I've taught many others and I can teach you as well. Financial security really is possible if you just know what you are doing and take the right actions.

All you need is the right information—not too much, not too little, not too simple, not too complicated—just the right stuff.

If this book delivers on its promise, please let me know with a favorable review so I can thank you. If it doesn't, please write me personally at todd@financialmentor.com so I can send you a refund and correct any potential problem.

Thanks for your support!

A Brief Note About Reader Level And Defining Terms

No financial education book can perfectly address every reader's needs. After all, each of us brings a different experience base and level of financial sophistication to the written page.

In other words, what is complicated to one person is oversimplified to the next, making writing for a wide audience difficult.

In an effort to maintain brevity and respect all readers needs I've assumed base level financial sophistication and chosen to not define every financial term contextually.

Instead, less familiar terms are defined in the endnotes at the back and linked within the text. That way advanced readers aren't confronted with unnecessary definitions that distract the flow of writing while readers newer to the subject can easily resolve any confusion by following the links to find terms requiring greater explanation.

Introduction

“The ultimate security is your understanding of reality.”

H. Stanley Judd

Traditional retirement planning has failed.

- According to the New York Times, 75% of Americans have less than \$30,000 in their retirement accounts, and 49% of middle-class workers will retire poor or near poor.
- According to Hewitt Associates, 4 out of 5 workers will fail to meet all their financial needs in retirement.
- Employee Benefit Research Institute reports that 81% of workers nearing retirement age (45 or older) have less than \$250,000 in savings and an astounding 48% have accumulated less than \$25,000 as they approach retirement.
- Only 14% of American workers are confident they will have enough money to retire according to the annual Retirement Confidence Survey.

The evidence is overwhelming that something is wrong with traditional retirement planning. It's an old world model in need of a major facelift.

The problem is inherent in how the retirement system is designed—it's not realistic. The skills and knowledge required to successfully execute a traditional retirement plan are beyond most worker's abilities:

- You must voluntarily save a significant portion of your income with discipline throughout your career (8%–30%, depending on the age you begin saving).
- You must develop sufficient investment expertise to implement smart asset allocation and investment decisions.
- You must know in advance when you and your spouse will die to know how much savings are required.
- You must know in advance when you will end work—either voluntarily, due to sickness, or possibly because of lay-offs out of your control.
- You must know what the future inflation rate will be over your remaining

life (even though trained economists can't accurately predict this number even one year in advance).

- You must know what your investment portfolio will return over your remaining life.
- You must be disciplined enough to never raid your retirement nest egg when adversity strikes like getting laid off, health problems, kid's college, or getting divorced.
- And then, to top it all off, you're supposed to manage your retirement savings so that you spend your last dollar as you exhale your last breath.

Yeah, right! No wonder most workers are failing at retirement planning.

It is an almost unbelievable list of skills and knowledge that few (if any) workers possess. It requires you to have the savings discipline of a celibate monk living in a brothel, investment skills that exceed most pension and mutual fund professionals, and the actuarial skills of an insurance expert.

Those sound like pretty demanding standards for someone who aspires to quit work.

There must be a better way, and that is what this book attempts to show you.

I “retired” back in 1997 at the ripe old age of 35 and fumbled with the traditional models making my share of mistakes to learn what works, what doesn't, and why. I've spent more than two decades studying retirement planning through popular books and the latest academic research. Trust me, there's more to the “how much to retire” question than is commonly understood. It's a controversial subject where even the experts can't agree on the best solution.

The problem is obvious once you see it. It's baked into the cake of the traditional retirement planning model. To estimate how much money you need to retire, the traditional model requires you to input a laundry list of assumptions about things you can't possibly predict 20–50 years into the future. It's impossible. **That is the core problem and there's no real solution.**

Just look at that list of skills and knowledge required. Nobody knows when they will die, what inflation will be, or what their investment portfolio will return. It's not only impossible—it's ridiculous.

The future is not predictable for even a few years, and 20–50 years into the

future is a gross approximation at best. It's classic "garbage in equals garbage out." The need to predict the future is a fundamental, inescapable limitation to the conventional retirement planning process that converts the precise façade of science with all the computerized retirement calculators into the vagary of art.

The good news is that I have figured out workable solutions that'll be explained in this book. Retirement planning done right is built on three separate models. I want you to have a quick overview of all three models now because this overview sets the context for everything you will discover in this book:

1. The first model is conventional retirement planning. **It's dangerously misleading because it appears scientific, but it's actually a fiction based on flawed premises.** It works acceptably well for retirements up to 20–25 years in duration because it's built on spending the principal in your savings account, but it runs into serious problems when your retirement time horizon exceeds 30 years. The first half of this book explains the problems with the traditional model with workaround solutions so you fully understand how to apply this model wisely.
2. The second model focuses on the increasingly important role creative lifestyle planning plays in modern retirement planning. **The New Retirement is redefining the word "retirement" and completely changing the math** behind how much money you need as a result. This section provides powerful planning tools that can help you close the savings gap or retire with greater financial security several years earlier than expected.
3. The final model in this book presents an entirely different approach to understanding how much money you need to retire **based entirely on cash flow instead of assets.** It's valid for retirement time horizons exceeding 30 years, eliminates any need for difficult assumptions, simplifies, and is more robust (but also more difficult to attain).

In other words, this book will show you three different ways to answer the "how much to retire" question that flow together to form a composite picture: the traditional asset based approach with all its warts and blemishes, the creative solution where retirement is redefined thus changing the financial picture entirely, and the cash flow solution. I find it helpful to think of each of these three solutions as providing different yet compatible viewpoints on the "how much to retire" question.

The integration of these three approaches is what gives you a complete picture. Any one model without the other two is a dangerous half-truth. You'll

want to understand how the composite picture fits together because each of these three models builds on insights from the previous model. They connect. When you put them together, you'll fully understand how to build a retirement plan that perfectly fits your personal situation. It's a very empowering solution.

I've been teaching this subject to financial coaching clients and living the answers in my own retirement since 1997 and I can tell you that this is the definitive solution. Nothing more is needed. It's what works in practice, even if it doesn't appear as neat and tidy as the magic number spewed from a retirement calculator.

Before I show you how all this fits together, starting with the first model, it's important that I warn you about a few common potholes that readers sometimes fall into so that you don't make the same mistake.

The first pothole is to confuse the simplicity of how I explain these complex topics as synonymous with an incomplete or technically unsophisticated answer. Readers of my *4% Rule and Safe Withdrawal Rates* book know I'm deeply versed in the rocket science of retirement planning. I've been published in a peer review academic journal and readers familiar with that work expect math equations and elaborate statistical proofs.

The truth is that all of that stuff doesn't work for figuring out how much money you need to retire. The complex equations and technical jargon get in the way of the simple truths that truly govern what does work. For that reason, I intentionally don't waste your time on any of the fancy mumbo-jumbo so we can focus on the few actionable ideas that actually produce workable results. As Pareto's Law implies, 80% of the details will produce 20% of the results. This book focuses on the 20% that makes or breaks 80% of your results. Paying attention to the critical 20% is what will secure your financial future. Don't make the mistake of getting lost in unnecessary details.

The next mistake nearly everyone makes when calculating their retirement number is to pursue additional data in a futile attempt to increase accuracy. I know this will sound counterintuitive to you, but it actually doesn't work that way.

The truth is that there are just a couple of key numbers that will determine your success or failure in retirement planning. The rest are details that confuse more than they clarify.

I'm always amazed when self-proclaimed experts complain that I didn't include separating spousal assets, changing tax rates after retirement, or whatever pet peeve they choose from the millions of details intentionally

excluded from this book to make the primary message clear. If you're one of those people, then please pay special attention to the second section of the book where I take you through an exercise so you can prove to yourself what key numbers make or break your financial security. I don't want you to fall prey to the intellectual trap of pursuing increasing detail in a futile attempt to increase accuracy. The simple stuff is what works in practice.

The final mistake is to not be clear on the focus of this book. I've purposely excluded topics like long-term care insurance, strategies on when to begin Social Security benefits for maximum payout, Roth conversions, IRA rollovers, asset allocation, and Medicare supplemental insurance because this book is exclusively about how much money you need to retire. It's not the complete guide to retirement planning. Sure, these topics are important and valuable, but they would detract from the book's focus (which is complicated enough without adding distractions).

Okay. So now that you know the three models we will cover in this book and the three common potholes to avoid when reading this book, it's time to begin calculating how much money you need to retire.

Model 1

Conventional Retirement Planning

Why Calculate The Savings Needed For Retirement?

We succeed only as we identify in life, or in war, or in anything else, a single overriding objective, and make all other considerations bend to that one objective.

Dwight D. Eisenhower

Do you want to be able to maintain your standard of living in your golden years? Do you want to know how much money you can afford to spend every month so you don't run out of money before you run out of time? Do you want to know how much money you must save each month to reach your retirement savings goals? If you answered yes to these questions, then the only way you can find the answers is to calculate your number. Anything less is guessing.

Estimating your retirement number sets a goal, and the act of planning and setting goals has a benefit. The goal doesn't even have to be accurate—it just has to point in the right direction—because having goals is a necessary condition to reaching them. For example, you're far better off striving toward a savings goal of \$1 million (even if the accurate savings goal is \$2 million) than to have never set the goal in the first place. Why is that true?

When you calculate your number and pick that starting point, it's usually a wakeup call. It gives you a concrete goal to work toward when previously there was none. It's impossible to do it perfectly, so don't worry and just do what it takes to get started. You can always correct and adjust your goals later as you learn more. The key is to get started now by calculating your retirement number. Any reasonably plausible retirement number will do.

For example, you might be vaguely thinking you need to save for retirement or you might think Social Security and your company pension will suffice. This results in vague actions toward your retirement savings because you don't really know exactly what you need to do and by when. Until you actually do the math and calculate your number, you really have no clue.

However, everything changes once you calculate your number because then your retirement goals can be made concrete by reverse engineering your monthly savings requirements based on your age, existing savings, and expected retirement date. If your calculation shows a \$250,000 shortfall with retirement in 5 years, it's fairly simple to divide 5 into \$250,000 and realize

you need to increase savings by roughly \$50,000 per year. No more guesswork. You simply take the difference between your “how much is enough” number by subtracting it from your current savings and it tells you in no uncertain terms how much savings is required.

Without a retirement number, your savings and investment plans are aimless. You know growing wealth for retirement is important, but how much and by when? It’s too vague. By calculating a savings number and an expected date for retirement, all vagary ends and the serious planning can begin. **In short, it’s an essential step to reaching your goal of retiring with financial security and confidence.**

Research supports these conclusions. According to the Retirement Confidence Survey published by the Employee Benefit Research Institute, only 42% of workers have ever tried to determine their retirement savings needs. That’s a shame because nearly half of those who did calculate their number took actions to increase their savings by contributing more to retirement plans or changing investment strategies.

In other words, setting a goal is an effective exercise that can get you into action. It eliminates the uncertainty around what you should be doing each month and converts it into clearly defined actions you can take to secure your retirement. It converts the unknown into the known. It’s an important and valuable step in retirement planning. In fact, it’s essential.

Let’s begin the process of setting retirement savings goals by looking at the questions you must answer to calculate your retirement number.

Answer These Essential Questions To Determine Your Retirement Number

There are many methods for predicting the future. For example, you can read horoscopes, tea leaves, tarot cards, or crystal balls. Collectively, these methods are known as “nutty methods.” Or you can put well-researched facts into sophisticated computer models, more commonly referred to as “a complete waste of time.”

Scott Adams

Retirement planning is simple on the surface:

- You start by figuring how much income you need in retirement based on your estimated spending.
- Then you subtract how much income you'll get from pensions, Social Security, and other investments to determine your income shortfall.
- To cover that shortfall, figure how much you can safely withdraw from savings accounts without being at risk of outliving your money.
- This withdrawal rate and income requirement mathematically determines how much money you need to save to retire so you don't run out of money before you run out of life.

On the surface, it's a relatively straightforward algorithm that almost any retirement calculator can complete. All it does is project your investment growth and expenses into the future. However, there's much more to this calculation than appears at first glance. In fact, there are 7 critical questions that must be answered accurately for your retirement savings estimate to also be accurate. Below are the 7 questions:

1. What amount of money will you spend every year from the day you retire until the day you die?
2. What will be the inflation rate during your retirement years?
3. What year will both you and your spouse die?

4. How much money will your company pensions and Social Security pay over the duration of your retirement?
5. What will be the growth rate of your investments over your remaining lifetime?
6. What will be the sequence of those investment returns? Will you have good years in the beginning followed by bad years or vice versa?
7. What age will you and your spouse retire—regardless of whether it is voluntary, due to unexpected sickness, or due to forced layoffs out of your control?

Not to be a pessimist, but can you see why this is not the exact science that the books, calculators, and financial planners have led you to believe? **Hidden behind the scientific façade of computers and mathematics are some very big assumptions.** None of these questions can be answered with certainty, yet all of them must have accurate answers or your estimate for how much money you need to retire will be wrong.

Unless you have a crystal ball, you can't possibly know how long you'll live, what inflation will be, what the government is going to do with Social Security, or what will happen to the investment markets 30 years into the future. **Nobody even knows what will happen next year, not to mention 30 years from now, because the future is unknowable. Change just one of these inputs significantly and the amount you need to save for retirement will change dramatically—sometimes by as much as 2–3 times your original estimate.**

Think about this for a minute because it's no small problem. Retirement calculators require accurate answers to these 7 questions in order to provide you with accurate savings and spending goals for retirement. Yet, none of these questions can be answered accurately. Clearly, there is a fundamental problem with the entire process.

The reality of retirement planning isn't the science you'd like it to be. Financial advisors provide their clients with simple-to-understand retirement projections filled with pages of detailed pro-forma forecasts. **Unfortunately, these plans are precise but not accurate.** They can't be. It's impossible.

Let me be clear. I don't oppose the use of calculators—only the misuse of them. The rare but essential skill required is knowing how to use them wisely and how to interpret their output correctly. That's what I will teach you in this book.

There is value in working with retirement calculators. They allow you to do long-term planning far beyond what could be done without these tools. They're a decent starting point because they convert a mathematically complex task that most people would never tackle into something simple enough to accomplish.

Unfortunately, the scientific façade of the process deceives people into believing the output is accurate when it's nothing more than a mathematical projection of impossible-to-make assumptions. People bet their future on this fictitious output every day because they don't understand one basic truth: the only way their magic retirement number will be accurate is if the future matches the assumptions built into the calculation (highly unlikely). If the future differs from the assumptions (almost certain to occur), then the output will be wrong. It's as simple as that.

Some will attempt to argue this position by showing how sophisticated Monte Carlo[2] calculators randomize investment returns producing confidence intervals[3] and other highly-respected calculators “backcast[4]” through actual market history. However, the difference in using any specific calculator is small compared to the similarities. All of these variations produce statistically similar results because they make similar assumptions (this will be explained in detail later in this book).

Some calculators require more information depending on their sophistication, while others work with less information because they assume answers to some of the inputs. In the end, they all have much in common. They're all calculating the same thing in roughly the same way using roughly the same input. **The key is not which calculator you choose, but which assumptions you choose for the calculator.** That's what will make or break the accuracy of your estimates.

If assumptions are the key, then how do the financial planners and academics that live and breathe these questions every day choose assumptions? Amazingly, they choose expediency over accuracy by applying historical averages. This solution sounds logical on the surface, but it's also dangerously misleading.

For example, many calculators assume an 8% annual return on an investment portfolio and 3% annual inflation. The problem is that assumptions like these are based on historical long-term averages that have little relationship to the results you'll experience during your actual retirement—**which is the only thing that matters.**

Assuming stocks will return 8% every year is seriously misleading when actual returns can (and will) vary widely from that average estimate. There are

many 10-year periods where the markets lost money as well as 10-year periods where investment returns were much higher. Which 10 years you experience at the start of your retirement will make or break your financial security, but it'll have little or no relationship to average returns for the past 100 years.

The same is true with inflation where some calculators assume 3% when in fact it has varied widely both positive and negative for decades at a time. In other words, it's not as simple as the experts make it look with their "average assumptions solution."

While this may sound complicated and discouraging, please don't despair. Every act of creation is at first an act of destruction. My first task is to clearly demonstrate why the existing model is broken so you understand why an alternative solution is absolutely necessary. If you don't understand the problems baked into the cake of the conventional model, then you're at risk of falling prey to conventional wisdom. When you recognize the problems, then you will avoid the mistakes.

In the next several chapters I address each of the 7 questions individually. We will solve the assumptions problem to the best of our ability and provide **short-cuts and workaround solutions to every question.** By the end, you'll be able to apply a range of inputs that you're comfortable with so you can figure out a reasonable confidence interval for your retirement savings requirements. This confidence interval salvages the usability of the traditional model by defining a range of possible retirement futures. It isn't a perfect solution, but it's still a necessary step because it teaches essential principles about your retirement number not found any other way.

By the time you're halfway through this book, you'll have the best solution available for designing a traditional asset-based retirement plan. Once you fully understand this first model, then we'll build on that foundational knowledge with two additional models providing alternative "next step" perspectives on how much money you need to retire.

It's time to begin calculating your number using the traditional asset based approach by answering the first of these questions.

Question 1: How Much Income Do I Need For Retirement?

The curse of modern times is that almost everything does create controversy.
Horace Walpole

The amount of income you need during retirement appears to be a simple question at first, but like all the assumptions that go into calculating your retirement number, it's shrouded in controversy.

The traditional model in financial planning assumes you need 75%–85% of your working income to support your lifestyle during retirement. The assumption is that your expenses will drop during retirement because you won't buy professional clothes, commute, or incur other work-related expenses. You also won't save for retirement any longer.

All that may be true, but it's equally true that your expenses may rise during retirement rather than fall. In the early years while you are healthy, you may lead a very active lifestyle with travel, outdoor recreation, golf, hobby costs, and other leisure expenses. Fun costs money, and that amount could easily exceed what you save from dropping work-related expenses. This is particularly true for those who retire young or with strong vitality.

Additionally, as you get older, it's reasonable for your healthcare related expenses to rise significantly. For example, the average nursing home stay can cost more than \$74,000 per year and could rise to over \$150,000 per year by 2030 assuming annual inflation costs of 3%. Just one spouse needing this type of care could easily wipe out any savings from lower expenses elsewhere. In short, it's entirely possible for you to spend significantly more than your current earned income after your retire.

With that said, however, Ty Bernicke, in an article in the *Journal of Financial Planning*, demonstrated that retirees spend less, not more, during retirement and he has numbers from the U.S. Department of Labor's Consumer Expenditure Survey to back up his claims.

The survey shows significant spending declines in every major expense category except healthcare as people age. The difference isn't small. According to statistics, the average 75-year-old spends roughly 50% less than the average 45–54-year-old. Tacchino and Saltzman (1999) came to similar conclusions showing 65–74-year-olds spend 26.5% more than those over 75.

The data clearly demonstrates a reduction in spending for each decade of life from 55 to 75—approximately 25%. On the surface, this would appear to substantially reduce the amount of savings required to retire.

However, before you go off and crack the Champagne, you must learn how statistics can deceive. One thing to consider is how Bernicke's numbers exclude long-term care expenses. This can be solved by purchasing long-term care insurance, but if you don't have it, then a nursing home can change your numbers in a heartbeat—literally.

Also, Bernicke's numbers are averages and your situation might be different. You may incur unexpected expenses or begin a chronic illness early in your retirement. If something catastrophic happens and your budget is based on lowering your expenses as you age, then you have no wiggle room. You're stuck, and that would not be a good thing.

Finally, and most importantly, Bernicke's numbers are in constant dollars. In other words, his statistics are a snapshot in time and do not account for inflation. You cannot assume that his research implies your expenses will decline as you age because inflation will likely offset any reduction in spending. This one fact pretty much kills any ability to use his insights for your own planning since you'll be spending inflation adjusted dollars, not constant dollars. This is a critical distinction.

In other words, his research compares a 75-year-old's expenses today to a 45-year-old's expenses on the same day. Unfortunately, that's not how retirement works. Relative spending between age groups is not the relevant issue. It's an interesting statistical fact, but until it's adjusted for inflation over time to represent true spending, it's meaningless from an individual planning perspective.

The 45-year-old today won't be 75 for another 30 years, so he's going to be spending inflation adjusted dollars that'll be worth far less than they are today. Even though you might spend 25% less every 10 years as you age, inflation should easily wipe out all those advantages since 3% per year will compound to an increase in spending over that same 10 years far greater than the 25% reduction.

If all this contradictory research leaves you uncertain, then you're not alone. The truth is that each individual's situation is unique and no generic assumption will be accurate—**least of all a simple rule of thumb like spending 80% of pre-retirement income.**

The best solution is to formulate your own budget based on your life plans and make your best guesstimate. Below is a 5-step process to complete the

task:

1. Start calculating your retirement spending estimate by using one full year of your current spending as the benchmark. Include all items paid annually (insurance, etc.), all holiday expenses, and everything you can think of so that it's comprehensive. Make sure you get as complete a picture as possible.
2. Adjust those spending expectations for any unique plans you have for retirement. Will you be enjoying a lot of travel and recreation during your early retirement? If so, then add those expenses into your early budget and pull them back out after your wanderlust is satisfied. Will you pay off your mortgage? Will your health insurance costs change? Did you eliminate dry cleaning, suits, and commuting costs? What about retirement savings contributions?
3. Bernicke is correct in showing it makes sense to vary spending based on your plans and age bracket. As you get older, you can expect to spend less in nominal dollars so go ahead and build that into your retirement plan in **nominal dollars**.
4. Next, adjust your expected spending for inflation. (How to do this will be explained in the next chapter.)
5. Finally, add an assumption for long-term care costs depending on whether or not you are purchasing insurance. If you're insured, you need to include the premiums, and if you aren't insured, then maybe you should add a cushion for later years to self-insure that risk.

In summary, you'll want to vary your expenses appropriately over your entire lifecycle to reflect your true expected spending during retirement—but then you must turn around and adjust those expenses by increasing the nominal dollars shown to adjust for expected inflation. The 5-step process above walks you through your expected spending in retirement step-by-step so you create the most accurate assumption possible that's personally fitted to your retirement plans.

Finally, always remember that no matter how thoroughly you budget and plan, you'll likely be wrong. If you're not sure about this, then try to imagine guessing your expenses today from the perspective of 20 years ago. I know that my guess wouldn't even be close. Now look forward and ask yourself if you can confidently foresee your medical needs, changes in Social Security or Medicare, where you'll live, what health issues you'll confront, and how much it'll all cost.

There will always be the unknown. That's the inherent nature of the future that no amount of planning or statistical analysis can overcome. The best solution is to build your own budget based on your unique plan for retirement. It won't be perfect, but there's no better alternative for answering this required assumption.

Once this budget is set, then resolve the inevitable changes that occur over time by correcting and adjusting your plan. In other words, retirement planning is not a set-it-and-forget-it process. As your spending changes from your estimated budget, you'll have ample opportunity to revise your assumptions and recalculate to make the numbers work. Make your retirement plan a dynamic process. It's one of several ways you can still reach your goal of financial security despite the inaccuracies caused by the assumption problem.

Now, let's examine in greater detail how inflation affects your expense planning so that you can finish your budget.

Question 2: How Does Inflation Impact The Amount Of Money I Need For Retirement?

I believe that banking institutions are more dangerous to our liberties than standing armies. If the American people ever allow private banks to control the issue of their currency, first by inflation, then by deflation, the banks and corporations that will grow up around (the banks) will deprive the people of all property until their children wake-up homeless on the continent their fathers conquered. The issuing power should be taken from the banks and restored to the people, to whom it properly belongs.

Thomas Jefferson

Traditional financial planning usually assumes a 3% inflation rate. At 3% inflation, the amount of money you need to spend to maintain your current standard of living roughly doubles every 24 years. In other words, if you spend \$100,000 per year right now, then you should expect to spend \$200,000 per year in 24 years for the same lifestyle. Since most people can expect to live 24 years (or longer) in retirement, this is obviously an important issue.

But where did the 3% assumption come from and can you rely on it for your retirement? Since the late 1980s, inflation has been relatively mild averaging 3% or lower. That's where the assumption came from—it's recent history. It's also consistent with very long-term history.

Unfortunately, during the 1970s and 1980s, inflation spent more than a decade in the 5%–10% range. **A decade is a long time.** It's also spiked to the 20% level during war times and oil shocks, and it's been negative for isolated periods during recessions. **In short, assuming 3% inflation is little more than a guess based on a fairly narrow interpretation of history.**

What can you expect going forward? I don't know. To answer that question accurately would require a crystal ball or a direct connection to a higher power. I don't have either **and neither does your financial planner.**

What we do know is the rate of inflation fluctuates, so it's not realistic to blindly extrapolate the recent past forward. This is important because a small change in the inflation assumption will make a dramatic difference in the amount of savings required to retire.

For example, a 6% inflation rate means your income requirements roughly double every 12 years. At a 6% inflation rate, a 65-year-old spending \$100,000 today will be spending \$400,000 per year at age 89 and \$800,000 per year if he lives to 101. That is significant, to put it mildly. In fact, inflation is probably the single biggest threat to financial security that retiree's face. It's a really big deal.

If you're not clear about the importance of this issue, then let me share a few eye-opening inflation statistics courtesy of Charles Ellis in *Winning The Loser's Game*:

- A \$100 item purchased in 1960 would cost \$500 in 1995 (just 35 years later). That is 4.8% inflation compounded annually over 35 years for an astounding 80% reduction in purchasing power. Your investments would have to grow 5 times just to break even before you gained anything.
- But it gets worse because. During this same period from 1977–1982, the inflation-adjusted Dow Jones Industrial Average actually fell from 270 to 100—a 5-year loss of 63% adding insult to inflation's injury.
- If you think that time period is too narrow, then let's broaden it. From the 1960s to the early 1980s, the unweighted stock market adjusted for inflation lost roughly 80% of its value.
- Again, if that is too narrow, then consider how the 1993 Dow Jones Industrial Average was equal to its inflation-adjusted level in 1928. That means investors endured a full 65 years with no gain net of inflation.

Simply stated, inflation is the single biggest threat to your retirement because it can't be accurately estimated, you have no control over its occurrence, and the effect is compounded over time, thus magnifying small errors into big problems. Depending on other assumptions, increasing inflation by a mere 2% can easily double your retirement savings needs. It is a big deal.

My suggestion is to stress test your savings requirements using a variety of expected inflation rates. 3% over the long-term for U.S. citizens is likely an optimistic figure given our government's debt, entitlement programs, and other related issues. Multiple credible sources are projecting substantial inflation problems between now and 2030 based on (1) complications resulting from the attempted solutions to the financial crises begun in 2008, (2) entrenched entitlement obligations for both Social Security and Medicare, and (3) the Baby Boom generation retiring. Logic dictates that a mindless extrapolation of the recent past may not be applicable to the future.

While nobody has a crystal ball, it would likely be prudent and realistic to give the U.S. currency a higher inflation assumption than 3%. How high you want to go depends on how conservative you want your calculations to be and the level of security you require in retirement. Declaring any number for inflation 20–30 years into the future is only a guess. Anyone telling you otherwise is either self-deceived or a liar because there are simply too many unknowns and variables. All you can really do is decide how conservative you want to be by determining how high of a number you want to assume. Sorry, but that's as good as it gets with the traditional retirement planning model.

However, it's not all bad news. There is a way to overcome the inflation monster without having to make any assumptions at all. In a later chapter, where you practice calculating your retirement savings needs, I provide a relatively straightforward, work-around solution to the whole inflation problem that requires no assumptions. In the meantime, we're working with the traditional model, so pick a range you're comfortable with (e.g., 3%–8%) so you're ready to build your confidence interval when we start calculating. In the meantime, let's move on to the next question.

Question 3: How Does Life Expectancy Impact The Amount Of Money I Need To Retire?

If you ask what is the single most important key to longevity, I would have to say it is avoiding worry, stress, and tension. And if you didn't ask me, I'd still have to say it.

George Burns

Hmmm, let's get this straight. I'm supposed to tell the retirement calculator how long my spouse and I will live? Are they really serious? Nobody can possibly know. In fact, you can't even venture an intelligent guess. You could die tomorrow or live to be 120. There's no way to know, and by the time you do know, it'll be too late to care.

Traditional financial planning attempts to answer this question by consulting life expectancy tables. For example, according to Social Security Administration data, a 65-year-old man can expect to live, on average, until age 83 and a 65-year-old woman to age 85. Conservative financial planners might add 5–10 years to those life expectancy numbers to account for advances in healthcare. Others might adjust those numbers based on your particular family history. **Frankly, I have a problem with this whole approach.**

First off, 1 out of every 4 65-year-olds will live past age 90 based on today's Social Security data and 1 out of every 10 will live past age 95. I don't know about you, but I plan on being that one.

Here's the point. **Using actuarial tables for life expectancy is perfectly valid for an insurance company or the IRS where they are dealing with large pools of people and statistical relevance, but it's not valid for you or me individually.** You have one life and one retirement only. Nobody is 50% dead at age 73.

The day you die is not a probabilistic outcome. That is a key point to understand. Your individual lifespan has no statistical validity. Any attempt to project a single expected lifespan (yours) based on statistical probability is fundamentally flawed. It makes no sense, yet that's what traditional financial planning does every day.

You can no more bet on death at age 82 than you can at 102. It may be probabilistic for a large population, but it's a crap shoot for any one person. Planning your retirement based on an actuarial table runs the risk of leaving you with more life than money, and you definitely don't want that. After all, half the population is going to live longer than expected, and you certainly hope that includes you. If you do live longer than average, you also have to make sure you have enough money to enjoy it.

More than any time in history, your life expectancy is unknown. What is known is how it's continually rising with advances in healthcare and medicine. What we don't know is what the impact will be of recent developments in biotechnology, nanotechnology, and DNA research. Longevity is a rapidly developing science that is being fueled by the wealth of an aging baby boomer population that isn't exactly embracing death with open arms. **What has been true in the past about life expectancy is likely to go through dramatic changes in the next 30 years.**

During the 20th century, life expectancy increased 110 days annually growing from 50 years to 80 years. Some argue with this statistic, citing most of the gains resulted from reductions in infant mortality rather than longer lifespans. Other scientists show growth in the old age population and claim the first human to live to be 150 years old is already alive and probably around 50 years old right now. According to United Nations estimates, by 2050 the over-85 population will increase 6-fold and there'll be 16 times as many people over the age of 100. This is a huge deal and conflicts with what the actuarial tables lead you to believe.

The longevity issue is important because planning a retirement nest egg designed to survive 20 years (age 85) is radically different from a nest egg that must last 40 years (age 105) or 60 years (age 125). In the first instance, you can plan on spending principal. In the other two instances, spending principal is tantamount to financial suicide. Make sure you read that twice because it's a critical point to understand. You can't spend much principal from savings when you expect a long or unknown retirement; the math simply doesn't allow it.

Most people intuitively understand why this is true using the analogy of a home mortgage. Just compare the amount of amortization on a 15-year mortgage payment versus a 30-year mortgage. The same is true for a 15-year retirement versus a 30-year retirement—only in reverse. The longer the time period the smaller the amortization. A 40 or 50-year retirement allows so little amortization and introduces so many unknowns over such a long period of time that amortization (spending the principal from your savings) simply isn't safe.

What assumption will you make for longevity when planning your nest egg? In my mind, the only logical choice is to assume a very long lifespan unless your medical and family history indicates otherwise. **The risk of being wrong on this issue is too catastrophic to assume any alternative.** Think about it—failure is only experienced when you run out of money and you're still alive. You must guard against that outcome making a long life the only reasonable bet worth making.

If you're intent on using a mortality table for estimating lifespan, then one viable strategy is to pick the age where there is only about a 5% chance of survival. Again, the result will be a very long life.

Alternatively, you can choose to accept an unknown lifespan by planning your retirement as if you will die at age 95 while still living in your fully-paid-for home. If you live longer, then you can reverse-mortgage or sell your house to harvest any additional money needed.

Another planning strategy is to purchase an annuity that insures unexpectedly long lives. It only pays after you become elderly (age 85, for example) and is relatively cheap to buy because of the low probability for payout.

Either way, you must plan your finances for a very long lifetime for the same reason you buy fire insurance and life insurance—the alternative is a risk you can't afford to take. If you're wrong, then your children and grandchildren will have a nice inheritance. If you're right, then you'll need every last penny to avoid being indigent and dependent on family or charity when you're elderly.

While frightening and exciting to think about, living past 100 is not as big of a deal to your retirement planning as it may appear. Life expectancy is only relevant when your plan requires liquidating principal as required in the traditional retirement planning model. When we reveal models 2 and 3, you'll discover alternative solutions to this problem that give you a solid measure of safety.

Question 4: How Much Will My Company Pension and Social Security Pay During Retirement?

They want the federal government controlling Social Security like it's some kind of federal program.
George W. Bush

In order to determine how much income your personal savings must provide during retirement, the first thing you'll want to figure out is the amount of income you can expect from other sources. These other sources include company pensions, government pensions, and Social Security.

In other words, in order to figure out how much savings you need, you must first take your planned expenses that you calculated in question 1 above and subtract the amount of income you can expect from Social Security and pensions. What is left over is the amount of excess spending that must be covered by your savings.

To learn what you can expect from Social Security, contact them at 800-772-1213 or consult your wage and earnings statement sent annually. Another alternative is to use the SSA's [free online retirement calculator](#) to get a personalized projection based on your actual earnings history. The average benefit according to the Social Security Administration is around 40% of your pre-retirement income.

If Social Security plays a prominent role in your retirement plan, then you should learn how to maximize your benefits. There are various strategies based on life expectancy and earnings history that are outside the scope of this book but well worth considering depending on your individual situation. I encourage you to learn that information if Social Security is important to you.

With that said, what role should Social Security play in your retirement plan? To answer that question, it's first important to understand that Social Security is an unfunded program. **There are no assets behind it.** It's merely a transfer tax from those who work to those who don't. With increasing longevity and an aging baby boomer population, Social Security is fundamentally unsound because fewer and fewer workers are being taxed to support more and more retirees. Demographic projections show we're rapidly heading toward a day when there'll be just two workers to support each retiree. That is problematic.

While it's politically unlikely that Social Security will vanish entirely, it's realistic to expect diminished benefits in inflation-adjusted terms over time. There really is no other solution. You will receive less than your elders and your children will receive less than you. Recent history has shown the politically expedient way to make that happen is by raising qualification requirements and slowly inflating away the purchasing power of the nominal obligations that remain. That's already occurring, and it's probably realistic to assume more of the same going forward.

What that means to you is if you're retiring in the next ten to fifteen years, you may consider including some of your expected Social Security benefits for part of your retirement. If you're behind the baby boomer generation, then it would be prudent to not count on seeing much from the system. This author is in the latter category and considers Social Security a nice bonus if it occurs, but that's all. Your situation may be different.

Company pensions are another difficult discussion. While government pensions (defined as state and local governments distinct from Social Security) still appear reliable, corporations as a general rule appear to have little conscience when it comes to delivering on promises made to their retired workers. I know too many retirees who have watched helplessly as their apparent rock-solid, corporate pension benefits got cut to a fraction of the original promise after the company is sold, declares bankruptcy, or goes through some other legal shenanigan to void the pension liability. I wish it weren't true, but that's the ugly reality for all too many pensioners.

Just to be clear, when we discuss pensions, we're not referring to 401(k) accounts and other forms of self-funded retirement such as IRAs, SEP-IRAs, Roth IRAs, Keoghs, etc. These are all part of your personal savings and are not the same thing as a pension. A pension is the responsibility and property of the plan administrator and all you get is a promise of payment from them. This promise can be broken and it happens with unfortunate regularity. 401(k)s, IRAs, and other forms of savings are owned by you. Even though both are types of retirement plans, the security and legal obligation of each is as different as night and day.

For a more thorough examination of these differences and their implications, please see the free article titled [Pension Trends Say You Are On Your Own For Retirement Planning](#). It provides a complete examination of the pension system problems and how they may affect you. In the meantime, you must make a guesstimate of your expected pension and Social Security Benefits to determine how much income your savings (both retirement savings such as 401(k)s and regular savings as well) will need to provide to make up the difference.

The simple solution from a mathematical standpoint is to count all pension and Social Security Benefits as a big, fat zero—a bonus if you get them but not to be relied upon. That may be a shocking stance for some long-time corporate employees, but airline and financial company workers are probably nodding in agreement; whereas, just a few years earlier they would've been arguing the point. It's a difficult situation to face, but pension obligations are generally not as secure as you might like to believe.

Only you can decide what's appropriate for your personal situation. Some corporations have a higher probability of making good on their pension obligations just as some government pensions are secure. Maybe you will choose a sliding scale based on your confidence in payment. Just don't assume too much. Your personal situation is dependent upon the security of the entity promising to pay you, which is beyond the scope of any general education book to answer. I just want to make you aware of the risk and to point out that it's all too real for all too many current retirees already. **It's probably prudent to assume that a promise to pay is not as secure as money in the bank.**

With that said, you'll just have to do your best and make a judgment call based on your age, expected retirement date, and the degree to which your company pension plan is at risk based on the strength of the company and the funding of the plan. **Retirement planning based on a zero payout from both Social Security and pensions may be conservative, but it may also be impossible to do.** It places such a sizable burden on your savings to make up the shortfall that it may push your retirement out of reach. As a result, some people prefer a sliding scale payout. It's a judgment call that you'll have to make—and that you'll have to live with.

Question 5: How Much Investment Income Can I Expect During Retirement?

When a man retires, his wife gets twice the husband but only half the income.
Chi Chi Rodriguez

The investment return assumption is the most complex of all the questions to answer. In fact, it'll take four chapters to do it justice (seriously). This first chapter will explain the problems with the conventional approach just like I did with the previous questions. The follow-up chapters will explore the latest research to dispel current myths and provide you with an uncommon solution in the final chapter.

If you can't stand math and statistics and just want the answer, then you can skip to the end of the fourth chapter in this series—however, I don't suggest it. The material in these next four chapters is critical to your financial security in retirement, diametrically opposed to conventional wisdom, and well worth working through.

Again, let's begin this topic with the approach offered by traditional financial planning and then expand upon it. Most financial advisors would claim long-term return expectations **prior to retirement** ranging from 7%–10% based on a traditional asset allocation using a buy and hold investment strategy. **After retirement**, your traditional asset allocation is then supposed to shift away from equities toward fixed income thus dropping the return expectations to the 4%–5% range. At least, that's what traditional financial advice claims you can expect.

Alternatively, if your retirement portfolio is non-traditional then your expected return may look completely different. This is an important point that we'll revisit later in the book, so please take note of it now. The brokerage and investment community wants you to believe a government-sponsored retirement plan (401(k), IRA, Roth IRA, etc.) stuffed with the stocks, bonds, and mutual funds that they sell is the only way to go, but that is a self-serving and narrow view of reality. There are perfectly viable investment alternatives.

You may choose to invest in rental real estate, thus providing passive rental income expected to rise with inflation. You might be an active investor with

returns based on skill and not correlated to conventional passive investment expectations. Maybe you built a portfolio of dividend paying stocks where the income has risen every year and exceeds your expenses. Or maybe you built a business that is paying you annually on a long-term installment sale. All of these are non-traditional asset allocations that many people use to successfully fund their retirement.

Another possibility is to build your retirement portfolio with traditional assets, but approach asset allocation in a non-traditional way. For example, if you retire at age 59 and have another 30+ years of life expectancy, does it really make sense to overweight your portfolio with fixed income (bonds)? After all, hiding in fixed income misses opportunities to preserve purchasing power by growing your portfolio faster than inflation.

With that said, the problem with a non-traditional allocation toward equities and away from fixed income is that you increase the risk of losing a significant chunk of principal from your savings. Just ask anyone who began retirement in 2000 with a large stock allocation. **Many of these investors now prefer to accept the near-certain risk of inflation gnawing away at their capital over the possible risk of market fluctuations wiping it out.** These are very tough questions that can make or break your retirement security, yet are oversimplified by traditional financial models based on long-term averages. Only you can decide what's right for you, and a fair amount of education is required to make an informed decision.

The reason I've spent so much time discussing traditional assets versus non-traditional assets is because it affects the usability of various calculators and retirement planning models for estimating how much money you need to retire. Just as financial planners have the self-serving assumption that your portfolio is comprised entirely of the assets they can sell you (stocks, bonds, annuities, etc.), the models they use to calculate your retirement number assume similar portfolios.

For example, go ahead and try to plug a rental real estate portfolio into a traditional retirement calculator or run a Monte Carlo simulation on it—it doesn't work. In fact, it's so ludicrous it doesn't even make sense, like fitting a square peg into a round hole. However, the simplified models I teach you in the following pages and my [retirement calculator](#) work perfectly fine with any portfolio—traditional, non-traditional, or a mix of both. This is an important advantage.

Whether you invest according to a traditional or a non-traditional model, there are no sure-fire answers to determine your expected investment return 20–40 years into the future. The essence of investing is putting capital at risk on an unknowable future. No assumption about average returns will resolve that.

Just think back on how much has changed in your life and your investment portfolio during the last 20–40 years. Could you have predicted the advent of discount brokers, online trading, and commissions going to near zero? Could you have predicted the 1980s gold boom and bust, the technology bubble, the real estate bubble followed by debacle, or the Dow Jones Industrial Average rising from under 1,000 to over 10,000 only to get cut in half again? If you couldn't foresee any of those events, what makes you think the future is any more predictable in a world where the pace of change seems to only accelerate?

Financial planners use historical return models (and more recently, Monte Carlo) despite all these problems because it's an expedient solution, not because it's accurate. In the next chapter we'll look deeper into the research to determine practical solutions. What you are about to discover is that the answers are complex. I've done my best to simplify the latest research and connect the dots for you, but it's not easy reading. Just imagine the average broker trying to explain to his clients what you're about to learn in the following pages and you'll understand why oversimplified solutions such as historical averages persist despite the obvious problems.

It's far easier for most advisors to just assume historical returns than to try and explain how the latest research should be applied. Historical averages are mainstream thinking that are easy to digest and easy to implement, thus explaining the widespread practice, even if it isn't accurate.

In the end, your investment return expectation is a function of your investment strategy, skill, and the time period in which you began investing. Your retirement security will be determined by the next 15–20 years investment returns so that's all that matters—not the past 100 years. Long-term analysis can be very risky for retirees because it hides 15-year periods of flat or negative results that are critically important to understand.

Now it's time to learn what the latest research says about estimating investment return so you can calculate how much money you need to retire.

Question 6: How Does the Order of Returns and Market Valuation Affect Your Investment Return Assumption?

Telling the future by looking at the past assumes that conditions remain constant. This is like driving a car by looking in the rearview mirror.

Herb Brody

Imagine a triangle. Each side must be precisely defined for the triangle to take shape. If any side is missing, the triangle is not merely weakened—it fails to exist.

The triangle I create for you in this chapter defines your investment return assumption and safe withdrawal rate^[5] during retirement, which is the amount you can spend each month without running out of money before you run out of life. The three sides of the triangle are valuation informed investment returns, the volatility effect, and the sequence of returns effect.

Each of these sides of the triangle are examined in consecutive order and in the process, best practices are defined for estimating investment return, which is the center of the triangle. Along the way, you'll develop an understanding of the underlying problems with Monte Carlo calculators and why I reject them even though they're currently considered the best risk management tool by the majority of the financial planning community.

A quick word of warning: This chapter is heavier reading than the rest of this book and includes tables of data and statistical terms. I wish I could skip the complicated math, but my conclusions are diametrically opposed to the conventional wisdom in the financial-planning community and must be proven with detailed research results to support my claims.

The first step is to define the three sides of this triangle before connecting them together into a conclusion later in this chapter about investment return assumptions and how much money you need to retire. I define the sides of the triangle by sharing three frequently-asked questions I hear when I coach clients through their retirement planning strategy. The answer to each question explains a side of the triangle as we build toward a composite understanding where the whole is greater than the sum of the parts.

Question 1: Can I predict my investment return in any useful way?

I wish it were possible! It would sure make it easier to estimate how much money you need to retire. Unfortunately, nobody can reliably predict investment returns for next year or even the next three years. Results are random in the short term. However, over a decade or more, the research is clear that investment return is not random. Instead, return can be related to the market valuation[6] at the beginning of your investment holding period. This distinction is critically important and provides essential information for estimating your investment return during retirement. It defines one side of the triangle.

For example, Plexus Asset Management examined 10-year returns on the S&P 500 from 1871–2007 by organizing the results into quintiles[7] based on the P/E ratio at the start of the investment holding period. What they discovered was that the most expensive 20% of 10-year periods had a beginning P/E of 22 and an average subsequent inflation-adjusted return of just 3.2%; whereas, the cheapest valuation 20% had an average starting P/E of 8.5 and an average 10-year subsequent return of 11.0%. In other words, the cheapest valuation periods had more than three times the return of the most expensive valuation periods. Similarly, each quintile of improving valuation showed improving returns.

What does that mean for your retirement plan? **The amount of return you can expect from a diversified equity portfolio is inversely correlated to the market valuation at the start of the holding period.** If your retirement begins with high valuations, you should expect lower than average investment returns and if your retirement begins with low market valuations, you should expect higher than average investment returns. It doesn't tell you reliably what your return will be; it just tells you that high valuations beget lower than average returns and lower valuations beget higher than average returns over subsequent 10-year time periods. That can be useful information for estimating your investment returns when calculating how much money you need to retire since you can know with absolute certainty what market valuations are on the day you retire.

Similar research was performed by Shiller where he isolated the 10 best and 10 worst years to be a stock investor. What he found was the cyclically-adjusted price earnings ratio (CAPE[8]) for the 10 best years averaged 10.92 (well below average) with an average 10-year subsequent return of 16.1% compounded annually. The CAPE for the 10 worst years averaged 23.31 (way above average) with an average 10-year return of -3.3%. Notice the relationship between valuation and subsequent 10-year returns? High market valuation begets low 10-year investment returns and vice versa.

I've seen more studies on this phenomenon than I can recall from more researchers than I care to cite. It's one of the most robust statistical relationships in modern finance that is valid across both U.S. and international historical data and holds up against a wide array of varying assumptions. In fact, you can choose almost any valuation metric you want from the ever popular P/E ratio to price/sales to Q ratio and more. I chose the studies by Plexus and Shiller because they were simple to understand and included very large data samples. I could've just as easily cited a dozen different studies that all point to an identical conclusion.

The bottom line is valuation matters. High valuation periods at the beginning of your investment holding period lead to low subsequent 10-year returns and low valuation periods lead to high subsequent returns. This is extremely important because it means that while investment return is random in the short run, there's some order to returns when time horizons reach 10–15 years. This 10–15 year time horizon is critically important to estimating how much money you need to retire (as you will see shortly). It's the first side of the triangle, so let's define the second side of the triangle with another common question.

Question 2: Why can't I spend 7.4% from my savings annually if the average inflation-adjusted return from my investment portfolio is 7.4%? Intuition would indicate that you should be able to safely spend your investment return—right?

Wrong. There are several problems with that conclusion, but for now we'll focus on one in particular: the volatility effect.

You can intuitively understand this problem through the analogy of a Mike Tyson punch to the face. Because the punch will occur in a brief second, the effect, averaged over the course of an entire day, is the equivalent of a feather pillow brushing your face. Unfortunately, that average is very deceptive because it tells you nothing about the excruciating pain that occurs when you're knocked unconscious. The punch is a volatile, short-term experience, and so is stock market volatility.

Financial “experts” are quick to quote average stock market returns, but that number deceives no differently than a knock-out punch to your face averaged over the course of a day. Average returns hide volatility and average returns cannot actually be spent. They're a statistical aberration. The only return you can spend to support your living expenses in retirement is the compound return[9], and compound returns are impacted by short-term volatility.

In fact, compound returns are always less than average returns[10] because of the way money compounds. If you lose 20% one year and gain 20% the

following year, your average return is zero, but your account will actually lose money through compounding. In this example, your \$100 account drops to \$80 in the first year ($(100 - (100 \times 0.20)) = 80$) and then rises to only \$96 in the subsequent year ($(80 + (80 \times 0.20)) = 96$). The bigger the investment loss (i.e., volatility), the greater the negative compounding effect on your account balance. For example, a 10% loss only requires an 11.1% gain to get back to even, but a 50% loss requires a full 100% gain to return to even.

There are two key ideas to take away from this discussion on volatility effects that define the second side to our investment return triangle. Compound return is always less than average return, and compound return is the only return you can spend. It's what determines your portfolio value, not average returns.

Secondly, the difference between average and compound return is a function of how volatile the asset is. The more volatile the returns stream, the bigger the gap between average investment return and compound investment return.

For example, the average and compound returns for a treasury bill are nearly identical. However, the stock market is a very different story. According to Ed Easterling in *Unexpected Returns*, the average return for the Dow Jones Industrial Average from 1900–2003 (excluding dividends) was 7.4%, but the compound return was only 5%. The difference between 7.4% and 5% may not sound like much, but over such a long period of time it reduces the amount your account grows to by an astounding 90% (that's not a misprint!)—from \$1,000 growing to \$1,676,661 to \$1,000 only growing to \$159,841. It's the compounded effect of these small changes over long periods that'll make or break your retirement security and defines the second leg of our investment return triangle.

Now let's look at the third leg of the triangle before putting these three legs together into a composite picture.

Question 3: Do good and bad investment years average out over the long run or does it matter what order those returns occur in?

Actually, it matters a lot how your investments perform in the first few years of your retirement. It's known as the sequence of returns problem and is best illustrated by the following example from William Bernstein.

Assume you have a \$1,000,000 portfolio with an average return of 10% split evenly between 15 years at +30% and 15 years at -10%. This would give you a compound return of 8.17%, regardless of what order the returns occur. Again, compound is less than average due to volatility.

In other words, the order of returns does not affect your average return or your

compound return. You could start the 30-year period with 15 consecutive positive years followed by 15 consecutive negative years (or vice versa), or you could randomly arrange the 30 years in every combination imaginable and the effect on compound returns and average returns would be nil. It wouldn't matter. You would get the same result.

However, the amount of money you can withdraw from your savings (see the book *The 4% Rule and Safe Withdrawals Rates in Retirement* for a detailed discussion) is dramatically impacted by the order of the returns. As it turns out, the amount of money you can afford to spend to support your lifestyle is just as dependent on the order of your investment returns as on what the actual investment returns are.

For example, if you are unlucky and start your retirement with 15 straight losing years, you can only withdraw 1.86% of your beginning portfolio balance annually to support spending even though your average investment return is much higher at 10%.

Conversely, if you are lucky enough to start your retirement with 15 straight winning years, you can safely withdraw 24.86% annually even though your average return is still just 10%.

Same annual returns, same average return, same compound return, different sequence of returns—vastly different result.

Sequencing risk causes the amount you can safely withdraw from your investments to vary from a low of 1.86% (in this example) to as high as 24.86%—more than 13 times the annual spending from the same investment portfolio. That's the difference between dining on cat food or travelling the world and it's solely caused by the exact same returns occurring in a different order. Nothing else changed.

As shocking as these numbers are, it's really just common sense when you think about it. Imagine 15 years of no net investment gain (not hard to do with the stock market's performance following year 2000) while still withdrawing 4% per year for spending (an amount deemed safe by traditional financial planning but warned about in *The 4% Rule and Safe Withdrawal Rates* book). Even without inflation adjustments, you would wipe out 60% of your account just in spending alone. When you add inflation and investment losses to the equation, the overall destruction to equity would be the retirement equivalent of death by strangulation. It is why sequencing of returns risk defines the third side of our investment return triangle.

The problem is that these volatility and sequencing effects combine to cause dollar cost averaging[11] in reverse. You sell more shares to support the

same amount of spending on the way down thus lowering your average sales price for any given fixed interval of spending. The greater the volatility and/or the worse the sequence of returns, the more dramatic the negative impact will be on your ability to spend money to support your lifestyle in retirement.

This is not some strange, statistical mumbo-jumbo that has no bearing on your retirement. This is real-world stuff that is critical to your financial security. Real people retired in 2000 with plans to spend 4% annually (adjusted for inflation) and destroyed their nest eggs in the process because of this exact problem. This is a critically important, real-world, retirement planning problem that you must understand.

Can you see why a retirement plan built on average returns is so deceptively dangerous? The implied assumption is that those returns just roll into your account year after year like clockwork when in fact it doesn't work that way. Investment returns ebb and flow providing good results followed by bad results.

When you spend from your savings at the same time your investments lose money, the resulting damage to your account is magnified. That is a real-world retirement problem that every retiree faces, including you. The following table illustrates the volatility effect and sequencing effect together by showing you how much your investment portfolio must return just to break even from any given loss, both with no spending and spending 4% per year over a 3-year period:

% Loss	%Gain To Get Back to Even	%Gain To Get Back To Even With 4% Spending
10%	11%	26%
20%	25%	42%
30%	43%	63%
50%	100%	132%

Notice how the spending magnifies losses in your investment portfolio and how hard it is to recover from those losses. Spending from your portfolio adds insult to injury during periods of market adversity. It's why the order of returns is so terribly important and why volatility matters. A series of losses early on combined with spending can devastate a retiree's financial future.

Also, notice that this analysis only shows what it takes to break even and doesn't mention anything about growing your assets or offsetting inflation.

When you add these two factors, the problem is magnified again.

The order of returns risk is a huge factor in explaining why actual safe withdrawal rates using U.S. historical data vary from the 3% range at the low end to over 10% at the high end (depending on assumptions and the date chosen to begin retirement). Sequence of returns is determined by the date you retire, cannot be known in advance, and will be one of the most significant factors affecting your financial security in retirement.

Now that we've defined the three sides of the investment return triangle, we can now begin drawing conclusions that impact how much money you need to retire. Here's what we know so far:

1. Sequence of returns can dramatically impact how much you can safely spend from your savings.
2. Compound return is the only return you can spend and is less than average return due to volatility.
3. Valuation informed investment return estimates provide useful information not available from any other approach.

These are all extremely important facts to know about investment returns. Unfortunately, our goal isn't to just gather interesting facts but to figure a reliable estimate for your investment return assumption, which is necessary to calculate how much money you need to retire. That's the center of the triangle that your retirement security hangs on. To define this center, there are still pieces missing from the puzzle.

For example, you still don't know where the negative sequence of returns risk is most likely to strike. Is it random as some experts claim, or is there a way to reasonably estimate the risk of it waiting around the corner to bite you? We also don't know when volatility is most likely to strike. Is it random as experts claim or is there a different explanation? However, before we can answer these questions, we must first examine traditional retirement planning's answer: Monte Carlo calculators.

Monte Carlo Calculators And Other Random Myths

“That which is static and repetitive is boring. That which is dynamic and random is confusing. In between lies art.”

John Locke

Monte Carlo calculators are basically fancy computer programs that determine how random variation and lack of knowledge affects the reliability of a system. A Monte Carlo simulation is a stochastic process of iteratively evaluating a deterministic model by randomizing the inputs. If you don't understand that (most people don't), don't worry. It's just fancy terminology for building a confidence interval using random data. In fact, that's exactly how Monte Carlo simulations express their output—as a confidence interval.

Monte Carlo simulations are useful when it's impossible to compute an exact result, the very point of what I have been saying all along about how the future is unpredictable. Monte Carlo simulations give probabilistic outcomes based on a random sampling of either actual historical data or simulated historical data.

It will express the result as a percentage—the number might be a 90%, 95%, or 100%—confidence interval that your money lasted longer than your lifespan based on the assumptions applied. By that, it means that if you had the assets and spending patterns specified in the model, you would have died before you spent all your money the specified percentage of time in the simulation.

Monte Carlo calculators simulate the volatility and sequencing of returns effects discussed above by adding random fluctuations. The simulator then runs thousands of projections randomly varying the inputs based on your base return and standard deviation inputs.

Monte Carlo is considered the “rocket science,” best-of-class solution in the world of retirement calculators, but you must be careful. While Monte Carlo calculators demonstrate a distinct advantage from simulating constant growth like simpler retirement calculators, **that advantage comes at a cost.**

The problem is that Monte Carlo assumes the sequencing of returns risk and volatility effects are random, but research (see below) proves they aren't. Therefore, **any calculator that randomizes the return data is**

misrepresenting reality. It’s another example of creating a scientific façade over something that ultimately deceives more than it enlightens. While sequence of returns is not predictable, it’s been conclusively demonstrated by the research cited below that it’s affected by market valuations at the beginning of your retirement. Monte Carlo hides that fact and that’s a serious problem.

For example, retirement calculators using historical stock market data in the U.S. all the way back to 1900 would tell you the 4% Rule had a 95% success rate. That means your money lasted 30 years or longer 95% of the time, but 5% of the time you ran out of money before the 30-year period ended. A Monte Carlo calculator would give you similar confidence intervals depending on the exact assumptions and data periods applied.

Most people would conclude a 95% confidence interval is safe enough. After all, only 1 out of every 20 failed. That’s pretty good odds. **The problem is that analysis like this completely misses a critically important fact.** The failures are actually clustered in the 30-year periods that began with the highest valuations.

Ed Easterling (CrestmontResearch.com) brilliantly revealed this fact when he tested the industry standard 4% Rule against all 30-year periods in stock market history (S&P 500[\[12\]](#) index including dividends) beginning in 1900. He ranked each 30-year period by market valuation as determined by the price/earnings ratio on the first year of retirement then organized those data periods into 4 separate quartiles[\[13\]](#) of market valuation from highest to lowest. Below are the results:

Safe Withdrawal Statistics By P/E Quartiles:
4% SWR 30-Year Periods Since 1900
Starting Account Value = \$1,000,000

Starting Quartiles	P/E Range	Success Rate	Average Ending \$s	AVG Yrs If Out Of \$s
Top 25%	18.5+	79%	\$2,787,045	27.3
Second 25%	13.9 to 18.4	100%	\$5,157,631	n/a
Third 25%	11.2 to 13.8	100%	\$8,613,308	n/a
Bottom 25%	below 11.2	100%	\$10,073,325	n/a
All Periods	14.6 avg	95% avg	\$6,663,664	27.3

Look at that table closely. Notice how all the failures began with market valuations in the highest 25% grouping. Every single failure without

exception began with a stock market P/E[14] above 18.5. That’s an extremely important fact to understand for your investment return assumption when estimating how much money you need to retire.

Stated another way, the failure risk was 1 in 20 for all of the 30-year data periods, but the failure risk for the highest valued quartile was 1 in 5, while the failure risk for the lowest valued quartile was zero. That’s a huge difference. In fact, these numbers understate the true difference in risk because many periods that “succeeded” did so by barely staying above zero. If you add these into the picture, the risk difference would be even more dramatic.

Market valuation at the beginning of your retirement is a powerful indicator of your risk of financial failure during retirement. Valuation is a useful tool for identifying the highest risk of failure because that risk is not random as both backcasting and Monte Carlo would imply.

Also notice the direct relationship between market valuations at the time you began retirement and the average ending balance in your account. The lower the market valuation, the higher your average ending savings balance after 30 years of spending. The higher the market valuation at the beginning of retirement, the lower your average ending savings balance.

Some critics might claim this example is too neat and tidy—possibly the result of data mining. It’s not, and to prove the point we’ll now increase the spending rate to 5% (instead of the previous 4%). This will demonstrate the progressive increase in risk across valuation quartiles.

Safe Withdrawal Statistics By P/E Quartiles:
5% SWR 30-Year Periods Since 1900
Starting Account Value = \$1,000,000

Starting Quartiles	P/E Range	Success Rate	Average Ending \$s	AVG Yrs If Out Of \$s
Top 25%	18.5+	47%	\$(850,676)	21.8
Second 25%	13.9 to 18.4	70%	\$1,607,294	21.5
Third 25%	11.2 to 13.8	80%	\$6,326,247	26.5
Bottom 25%	below 11.2	95%	\$7,661,859	30
All Periods	14.6 avg	73% avg	\$3,693,376	23.0

Notice how the average success rate has dropped to 73% because of the higher spending rate—roughly 3 out of 4 odds that you will not run out of money before you run out of life. Surprisingly, higher withdrawal rates are

successful in the overwhelming majority of 30-year periods with the failures highly concentrated in the most overvalued periods. The 30-year periods beginning with the highest valuation quartile saw more than a 50% failure rate—1 out of every 2. That's pretty dangerous. The lowest valuation period was much safer with a 95% success rate in supporting a withdrawal that was 20% higher (5% instead of 4%). (Data courtesy of Ed Easterling and Crestmont Research at CrestmontResearch.com)

The Monte Carlo and backcasting approaches completely miss these important facts regarding the importance of market valuation in assessing retirement failure risk. They assume investment return is random and has no relationship to any factor that can be known when you begin retirement. This assumption is not supported by the data. They treat your retirement like a crap shoot when it isn't. You can absolutely know with 100% certainty what stock market valuations are at the beginning of your retirement. This knowledge changes your odds of success or failure dramatically.

If your financial advisor is using Monte Carlo analysis, then make sure you carefully consider the following issues:

- Remember that a 75% confidence interval sounds impressive, but it implies 25% of the time the strategy failed on simulated results. That is 1 in 4. The problem with confidence intervals is they deceive the mind into false confidence. Your retirement will produce a binary result, not an average result. You'll either be 100% in the failure group or 100% in the successful group. No individual can ever experience a probabilistic outcome for the same reason you can't be 73% dead at age 82. Probabilities deceive for individual outcomes.
- Monte Carlo may attempt to tell you the risk of failure, but it tells you nothing about the cause of risk so you can protect your portfolio. This issue is critical because research shows the risk is actually associated with market valuations. Randomizing returns obscures that fact making it more difficult to know how to protect against the risk.
- Monte Carlo simulators do a poor job of telling you the risk of unlikely events such as the 1987 stock market crash or the 2008–2009 credit crises. Research shows these events are associated with declining markets following periods of overvaluation. Only valuation-based models provide any useful indication when volatility risks are highest.
- Monte Carlo analysis cannot include non-traditional assets such as owning your own business or rental real estate.

- Monte Carlo ignores the relationship between market fundamentals and subsequent investment returns. It assumes all data periods are equal but modern financial research shows the most relevant periods for analysis are those with the most similar conditions. If market valuations are above average at the time you retire, then you'll want to consider data from those time periods and not be unduly swayed by the higher investment returns that followed below average valuation periods.
- Monte Carlo randomizes return data which is inconsistent with the secular trends that naturally occur in real market history. The markets are admittedly random in the short term but exhibit trends over periods of 1–2 decades. These trends cause meaningful periods of above and below average returns that are extremely important to real world retirees. This important information is obscured by the randomizing nature of Monte Carlo sampling.
- Monte Carlo does not reflect human nature. It assumes spending patterns will remain fixed according to an algorithm when in fact real retirees increase spending when their assets grow and decrease spending when their assets decline in value. This change in spending behavior can have a larger impact on the risk of financial failure than the data sampling produced by Monte Carlo, yet, it's excluded from the analysis.
- Monte Carlo software forces the user to choose a specific type of investment return distribution to run its calculations—normal, log-normal, triangular, binomial, exponential, etc.—when the data proves return distributions vary over time. There is no best single answer to distributions, yet one must be chosen for the program to function.
- Monte Carlo programs provide output that implies to users that it has measured risk of retirement failure in broad terms, when in fact most free applications and many paid Monte Carlo applications only attempt to measure one type of risk faced by future retirees: investment return risk. Some versions may model other types of risk (longevity, inflation, healthcare costs, etc.) but the output usually doesn't communicate these various risks and their impact on retirement planning in a way that the user can act on.

The bottom line is that Monte Carlo is not only limited by the same assumption limitations that regular retirement calculators face, but it adds an entirely new set of problems by assuming investment returns are random when the research clearly indicates it's not true. That is not acceptable.

Estimating Your Investment Return Using Valuations

“The only function of economic forecasting is to make astrology look respectable.”

John Kenneth Galbraith

The problem with Monte Carlo and every other type of investment return analysis (except valuation based analysis) is that they provide no useful information for estimating your risk profile and expected return over the critical first 10–15 years of your retirement. That’s what will make or break your financial security in retirement as proven by the research below.

The reason I recommend against using Monte Carlo, backcasting, and average historical return as your basis for expected investment return is because they provide zero understanding about your investment returns over the next 10–15 years (the only returns that actually matter). For example, nobody relying on any of the popular backcasting calculators could have anticipated a high-risk, low-return investment environment in 2000. This was critical information for retirees to know, and only valuation-based models could have provided that information.

That’s why valuation metrics at the beginning of your retirement are a superior modeling tool. It’s the only investment return modeling approach that gives you useful information for your actual retirement time horizon. In fact, Wade Pfau (2010) concludes that retirement success is highly dependent upon early investment returns showing that wealth remaining after 10 years of retirement combined with cumulative inflation during those 10 years explains 80% of the variation in the amount you can safely withdraw from savings.

Michael Kitces demonstrated in [this article](#), using the past 140 years of data, that the safe withdrawal rate for a 30-year retirement is 0.91 correlated to the annualized real investment return over the first 15 years of retirement. This is an astounding number and completely consistent with the research by Pfau, Bernstein, and Easterling cited earlier. The amount you can withdraw from your savings over your entire retirement is related to your first 15 years of investment returns after you retire.

Kitces found that when real investment returns were elevated in the first 15 years of retirement that significantly higher withdrawal rates could be sustained. Conversely, when real returns were depressed for the first 15 years

of retirement lower safe withdrawal rates were the likely result. For every instance where the safe withdrawal rate was below 6%, the first 15 years provided a real investment return of just 4% or less.

While you can never know with certainty what the next 10–15 years sequence of returns will be—because nobody can predict the future—multiple resources, including Pfau, Schiller, Easterling, Arnott, Kitces, Hussman, and many more, have demonstrated it's not random as Monte Carlo and backcasting calculators would assume. There is some order to the chaos over 10–15-year periods and this order is critically important to estimating your investment return and safe withdrawal rate.

Market valuations at the time you begin your investment holding period[\[15\]](#) are inversely correlated to the return you can expect over the following 10–15 years. In fact, Kitces showed the inverse correlation between return and valuation from 1871–2005 was an impressive -0.65. This issue has been well-researched and is valid across both international and domestic data samples, across time periods in history, and is something you can apply in your own retirement planning.

With that said, it's now time to put all this research together into a single conclusion that defines the center of our investment return triangle. One side of the triangle tells us investment returns are related to market valuations and the other two sides tell us the first 15 years investment return will make or break your financial security in retirement. The question that follows is whether or not we can connect those three sides to define a center conclusion that claims market valuation at the beginning of retirement is a reasonable measure of financial success during retirement.

As it turns out, the answer is “yes” with a strong negative correlation of -0.74 indicating low valuations at the beginning of retirement indicate higher safe withdrawal rates and total investment return over the subsequent 30-year retirement. The converse is also true where high market valuations indicate lower safe withdrawal rates and lower total investment returns. **This is demonstrated by research from both Easterling (above) and Kitces (below) providing critical information for estimating your expected investment return when calculating how much money you need to retire.**

Safe Withdrawal Rates Based On P/E 10 Quintiles (data courtesy the Kitces Report)

Quintile	Lower P/E	Upper P/E	Lowest SWR	Highest SWR	Average SWR
1	5.4	12.0	5.7%	10.6%	8.1%
2	12.0	14.7	4.8%	8.3%	6.7%
3	14.7	17.6	4.9%	8.1%	6.3%
4	17.6	19.9	4.9%	7.2%	5.8%
5	19.9	28.7	4.4%	6.1%	5.1%

Notice how the impact of market valuation is most pronounced at the extremes. Surprisingly, the highest withdrawal rate from the overvalued periods was almost the same as the worst withdrawal rate from the favorably valued periods. Think about it. Your best case scenario from overvalued markets is almost the same as your worst case scenario from favorably valued markets. The average safe withdrawal rate varies by an amazing 3% from top to bottom. That may not sound like much, but it would literally increase the amount of money you can safely spend each month during retirement by 60% or more. Obviously, that's a big deal.

Wade Pfau came to conceptually similar conclusions by creating a robust model for predicting the amount a retiree could safely withdraw from his savings using regression analysis and 3 valuation metrics: P/E 10 (price divided by average real earnings for previous 10 years), dividend yield (dividends divided by stock price), and interest rates (on 10-year government bonds) . It wasn't perfect, but most of the results were within 1% of being accurate, which is far more accurate and informative than blindly following historical averages or betting on random Monte Carlo results.

The research is clear—valuation matters. It's a valid indicator for narrowing the range of investment return results you should consider when estimating how much money you need to retire.

I know this was a lot of information to digest to get to this point, but the value of the conclusion was well worth the price. The problem is this conclusion is diametrically opposed to conventional wisdom ruled by Monte Carlo calculators, average returns, and assumptions of randomness. I had to prove my point conclusively so you had the ammunition to stand your ground against the masses believing something different.

Given how this knowledge could potentially save your retirement I hope it

was worth the effort of working through the data and understanding the critical implications. Now that you have this knowledge, let's bring this discussion to a conclusion by providing a step-by-step process for estimating how much money you need to retire.

- The first step in determining a reasonable expectation for your investment return assumption is to examine market valuations on the day of your analysis and compare them to the tables provided earlier in this book. This will not tell you what your expected investment returns will be, but it'll indicate if the time period is high-risk or low-risk to know if you can reasonably expect better-than-average or worse-than-average results.
- Complete your calculations using a retirement calculator that allows you to control the investment return assumption. (No backcasting or Monte Carlo calculators; see my [Ultimate Retirement Calculator](#).) Use historical averages as a starting point, then range up or down from there based on the valuation analysis above to create a confidence interval.
- Don't assume investment returns below fixed income (bonds) because you could always lock in fixed income returns, fixed annuities, and/or purchase TIPs[\[16\]](#) as a no-brainer alternative.
- Only assume returns above long-term historical averages if you have a non-traditional portfolio with the investment experience to support higher return expectations or the markets are below historical average valuations (see risk profile from step 1 above).
- You'll probably find it easier to separate your portfolio into non-traditional and traditional asset classes first before developing the expected return analysis. They are such different animals that they require different models and assumptions. For example, I treat my real estate and business portfolio as a separate asset class from my paper asset (stock/bond) portfolio.

I would not recommend backcasting or Monte Carlo-type calculators for all the reasons cited above. The assumptions behind their design are incompatible with the latest research indicating that investment returns and sequence of returns risk are related to valuations at the beginning of your retirement.

I understand this is a bold statement to make given that Monte Carlo analysis is considered the industry standard risk management solution in retirement planning. Many will disagree with me despite the underlying problems with Monte Carlo discussed here. Quite simply, Monte Carlo obscures the real risks through a façade of scientific accuracy and is incompatible with the

latest research showing strong correlations between valuation and expected return and risk. It's dangerous to conclude investment returns are random as Monte Carlo assumes.

It's important to clarify that I'm not claiming you can accurately predict your investment return using valuation approaches. You cannot. You'll never know in advance what your actual investment returns will be or the exact sequence of returns. However, expectancy models based on valuation provide a superior solution to any other alternative. It's the only method that provides any useful indication of the risk and reward profile you face during the critical first 10–15 years of your actual retirement. That is why I recommend this approach exclusively.

The truth is that your investment returns won't be totally random nor will they be representative of all periods in history. Instead, it's wiser to assume your returns will relate in some way to the most representative sample of history—the period that matched similar market valuations to what you face on the day you retire.

With that said, nobody has a crystal ball and the future is never exactly like the past. That's why you still must assume high and low estimates creating a confidence interval. There's always uncertainty. Expectancy models based on valuation simply help to better define your range of high and low estimates than any other alternative approach.

A Simplified Model To Calculate Your Magic Retirement Number

Retirement planning is complex, prone to large errors in estimation, and should embody a large margin of error.

Bill Bengen

Congratulations on staying with the analysis this far. If your eyes have glossed over from the previous chapter's Investment Returns 101 instruction, then rest assured it gets simpler from here. If you followed the previous discussion, then you know more about the critical assumptions underlying your retirement number than most financial planners. Now that you know how to estimate all these assumptions, it's time to put all that knowledge to good use, return to simplification, and figure out how much money you need to retire according to the traditional asset-based model.

In the following examples, work with your actual estimates from questions 1–6 above while I demonstrate the process using a hypothetical example. If you haven't created a set of assumptions for any of the questions, then please complete the process now before continuing. You'll get far more value out of the examples when you can follow along with a pencil, paper, and your own numbers.

The first step in calculating your number is to guesstimate how much income you require. Remember, traditional wisdom says you need 75%–85% of your pre-retirement earnings in the first year of retirement. We elaborated on this rule of thumb in the first two questions above.

For my hypothetical example I'll use \$100,000 just to keep the math easy. You should use your actual first year estimate of your projected retirement spending. It's important to note this is just a first-year spending estimate. If you've planned for wildly varying spending patterns over time in your retirement, then just pick a representative estimate for year one. Again, this is not an exact science, so don't sweat the details. Just pick a representative number.

Next, subtract pension and Social Security income to determine a net income shortfall to be pulled from savings. Again, you use your actual numbers while I keep the math simple in this demonstration by assuming two spouses receiving combined Social Security totaling \$30,000 annually and a small pension paying \$20,000 annually. This totals \$50,000 per year income leaving

an annual shortfall of \$50,000 to be made up from savings (\$100,000 total income required minus \$50,000 from Social Security and pension equals \$50,000 annual income shortfall to make up from savings).

Notice that all numbers have so far ignored taxes to keep the math simple. If that bothers you and you want to net taxes out, then go ahead and work with net numbers to increase accuracy. For example, if I was paying an effective combined state and federal tax rate of 25% and I need \$100,000 of income, then I could work with \$133,000 of gross income ($100,000 / (1 - 0.25)$). I'll stay with the \$100,000 number because I want to keep the math simple in this example so the focus is on principles, not mathematics. You decide what's best for you.

The next step is to convert the income shortfall into an asset savings requirement. In other words, how much money do you need to save to provide \$50,000 per year in additional spending during retirement? In my hypothetical example the income shortfall is \$50,000 (\$100,000 income - \$50,000 income from Social Security and pensions) but you should be using your actual numbers.

In order to figure the amount of traditional savings you need to support paying \$50,000 per year while adjusting for inflation, simply divide the income required by your expected return on investment minus inflation, which we will call the Dividend Discount Model to give it a label. In this example, let's apply traditional finance assumptions with assets earning 8% and inflation at 3%, giving you an after-inflation adjusted return of 5% ($8\% - 3\% = 5\%$). Divide \$50,000 by 0.05 (5%) and the magic number is \$1,000,000 in retirement savings.

What that means is someone who wants to spend \$100,000 per year in retirement when inflation averages 3% and nominal asset returns average 8% will need approximately \$1,000,000 in savings assuming they get \$50,000 per year income in real terms (inflation adjusted) from both Social Security and pensions over their remaining lifetime. Whew, that is a mouthful, not to mention a lot of assumptions.

Remember, this is just one estimate using one retirement planning model with one set of assumptions. It's not scripture-in-stone reality. Instead, it's a loose approximation of reality that puts you somewhere in the ballpark, but only if your assumptions are somewhere in the ballpark.

That's why I recommend throughout this book that you should build a confidence interval. You want to see how the amount of savings required varies as you change the assumptions. **You want to know what the critical assumptions are that dramatically affect your estimate.** (This is the most

important factor, so read that sentence again.) You also want to know how stable your estimate is so you can retire with confidence and security knowing that you won't run out of money.

How To Build A Confidence Interval

Models are to be used, not believed.

H. Theil

To build a confidence interval, just vary your assumptions by raising inflation, lowering your pension payments, and decreasing your investment returns.

For example, suppose my pension goes south and Social Security is cut in half so that both combined provide \$15,000 income instead of \$50,000 causing my income required from savings to rise to \$85,000. If all else remains the same, my example retirement savings number rises to \$1,700,000 (\$85,000 per year annual income shortfall divided by 0.05). I can really stress test this same picture by also assuming my investment return falls to 6% and inflation rises to 4% creating a real return of just 2% (6% return minus 4% inflation equals 2% or 0.02). Yikes, now my savings requirement rises all the way to \$4,250,000 (\$85,000 divided by 0.02 equals \$4,250,000).

Notice how wide the range of values for my example retirement savings has become (\$1,000,000 to \$4,250,000). That's exactly why I've claimed all along that there's no such thing as The Number. **It all depends on your assumptions. Garbage in equals garbage out.** Anytime you look 30–50 years into the future, no single assumption has a prayer of being accurate. You must assume a range of plausible outcomes. When you combine all the pessimistic assumptions together (e.g. high inflation and low investment return) into a single calculation, it creates a huge retirement savings number. When you group the optimistic numbers together, your savings requirement is only fractionally as large. The effect is multiplicative (not additive) causing a shockingly large range of perfectly plausible outcomes.

Some people might claim the four million dollar number is overkill. After all, the goal was to spend \$100,000 per year and \$4.25 million allows you to spend \$100,000 for 42 years even if your assets never earned a dime. Odds are they'd be right—it is conservative—but we really don't know. After 42 years of inflation, \$100,000 per year may not buy very much and who knows how your investments will perform, how long you'll live, or what unexpected expenses and medical problems might emerge along the way.

The truth is that we can find valid criticisms for every retirement model regardless of its sophistication. For example, careful readers will notice this model has no ability to adjust for sequence of returns risk. That is a clear

negative. You'll have to build that risk into your expected return by lowering your estimates as a best approximation.

Even with that limitation, I chose to start with the dividend discount model because it has many qualities making it worthy of consideration. First, it assumes you don't spend principle implying an infinite lifetime so you don't have to worry about outliving your assets. (Did you notice that we ignored the life expectancy assumption when doing the calculations above?) This greatly simplifies the math and gets rid of one large risk. Another advantage is that it's flexible. You can easily adjust return assumptions to include non-traditional assets. Other advantages of this model include that it does a reasonable job of adjusting for inflation and, most importantly, **it's easy to calculate—anyone can do it.**

In fact, you're going to prove how easy it is by calculating your confidence interval using your actual numbers right now. Don't worry about accuracy; just use your best guess for your personal assumptions and get comfortable with the calculations. See the table below for a template using our earlier example to illustrate. It's a simple four-step process using basic math.

Start with the amount of income you require during retirement. In our example it was \$100,000 (Step A). Then subtract the amount of income you expect annually from Social Security and pensions (Step B). Divide what remains by your assumptions for investment returns minus inflation (Steps C & D). The result is the amount of savings you would require to retire with security and meet your income needs in perpetuity.

Step A: Retirement Income Needs	\$100,000	\$100,000
Step B: Soc. Sec. + Pension	\$50,000	\$15,000
Step C: Inv. Return – Inflation	.08 - .03 = .05	.06 - .04 = .02
Step D: (A-B) / C = Total Savings	\$1,000,000	\$4,250,000

Below are some additional tips to help you build your confidence interval when completing this exercise:

- Round your assumptions to the nearest \$5,000 or \$10,000 to keep the math simple, similar to what I did in the example.

- Make sure to play with various assumptions to find your range. The math is so simple you can vary each assumption with minimal effort and run a test case. You should have 20 or more test cases using various assumptions before you're done.
- Try adjusting your income needs to include taxes.
- Try adjusting your net investment return based on current market valuations.
- Make sure one extreme of your interval includes all your best case assumptions and the other extreme includes all your worst case assumptions including adjusting for taxes.

Completing this exercise using your real numbers from your life is important because you'll get far more value out of the remaining reading when you're comfortable with this model, have personal experience building a confidence interval, and know the dramatic impact caused by changing assumptions. Everything that follows will build on this exercise, so I encourage you to spend 10 minutes completing the process before continuing. Even if you're math-phobic, the calculations are so simple that anyone with a calculator and pencil can model a pretty thorough range of assumptions in just a few minutes.

When you're done modeling, you'll have a confidence interval for your retirement savings that'll likely force some hard decisions. In the next two chapters, I'll show you how to make those hard decisions much easier.

The Smart Way to Use Retirement Calculators

We must never assume that which is incapable of proof.

G.H. Lewes

As stated earlier, the financial planning profession usually addresses the difficult assumptions required in calculating how much money you need to retire by employing statistical averages. This might include average life expectancies, average historical investment returns, average historical inflation, and so on.

The better quality financial planners then make an effort to adjust those averages to try and better approximate your personal situation. For example, they might adjust your life expectancy based on family history and personal health.

Some advisors get fancy with Monte Carlo by converting the whole retirement planning process into a probability distribution based on randomized inputs while other fancy calculators simulate your retirement over actual historical data modeling the implied assumption that whatever will happen in your future is probably built into the past data.

As I've previously stated, there are advantages and disadvantages to each alternative. In the end, the surprising result is that none of these various approaches really matter. Shocking, but true.

The reality is that even though there are many different ways to calculate your retirement number—from the simplest as shown on these pages to the ultra-complex Monte Carlo—they all produce remarkably similar conclusions. Depending on the confidence interval and optimized data period, the Monte Carlo simulation generally allows you to spend between 3%—5.5%. That's remarkably similar to the ultra-simple dividend discount model when using similar assumptions. **Again, the conclusion is that it's not so important what mathematical model you apply, but what assumptions you use. The assumptions will make or break your retirement, not the model. Don't be deceived by the apparent rocket science of some expert's fancy computer model.**

All of this is really just common sense once you wrap your head around it. **The amount you can sustainably spend from a portfolio is determined by**

what it earns after adjusting for inflation, volatility, and sequence of returns. That's it—end of discussion. You can get as fancy as you want with the math or try to model the impossible, but it won't change this simple principle.

Most everyone reading this book has seen some version of the long-term charts produced by Ibbotson and Associates showing how the long-term returns from large cap equities^[17] approximate 10% and intermediate term bonds earn 5%. When you factor in inflation assumptions of 3%, the net return becomes 7% and 2% respectively. This results in a traditional retirement asset allocation mix providing a real return of 3%–5.5%. Is it any wonder that all the retirement calculators are saying you can spend somewhere between 3% and 5.5%? It's really not that complicated.

To drive that point home, let's examine some retirement planning models that even a math-phobic would love because they're so incredibly simple. You can decide for yourself if this overwhelming simplicity changes your conclusion about how much is enough to retire?

The first simple model is known as the Rule of 25. According to this rule, you figure out how much you'll spend in your first year of retirement and multiply it by 25 to get the total savings required. This is mathematically the same as saying you can spend 4% of your savings—which is right in the middle of our 3%-5% range. But notice how simple the math is—no fancy calculators or computers required. You just multiply your estimated first year spending by one number.

If you're worried about sequence of returns or choose to retire during a period of high market valuation, there's still no need to get fancy. Instead, you can just make this simple model more conservative by changing it to The 3% Rule or the Rule of 33, thus limiting your first year spending in retirement to 3% of assets. The end result will be remarkably close to more elaborate models.

For example, using the same assumptions as our previous example where you need to spend \$50,000 from savings during your first year in retirement, you'll need \$1,250,000 total savings ($25 \times 50,000 = 1,250,000$) using the Rule of 25 and \$1,650,000 for the Rule of 33. **Notice how both the income and assets required are very similar to the previous two models above.**

If the markets are in the upper range of historical valuations when you retire, then choose 3%. If valuations are in the bottom 25% of historical valuations, then maybe choose 5% or the Rule of 20.

With this model you still get to increase your spending each year by inflation (assumed 3% in this example) so that you spend \$51,500 in your second year

and so on. If you live 30 years in retirement, most of the simulations show the odds of running out of money are very low. The primary risk with this model is living longer than expected.

One of the techniques for managing the risk of living longer is to vary your withdrawals by giving yourself a raise only when your assets grow. Again, you start with the now familiar 4% of assets payout as implied by the Rule of 25, but rather than give yourself an automatic raise based on inflation, you instead only increase spending when your assets go up, and you maintain a constant payout during years when your portfolio declines. According to simulations, it greatly reduces the risk of outliving your funds.

Unfortunately, very few “experts” embrace simple solutions like these. They incorrectly believe the right approach is to use ever more sophisticated calculator tools (such as Monte Carlo) and more data input in a futile effort to increase accuracy. Unfortunately, it doesn’t work that way. They’re missing the forest for the trees because your retirement estimate really depends on just a few key numbers. The rest of the detail is just that—meaningless detail.

The Key Numbers That Make Or Break Your Retirement Security

“Whenever you find yourself on the side of the majority, it is time to pause and reflect.”

Mark Twain

Let me share a story with you. My [Ultimate Retirement Calculator](#) often gets featured in reviews about retirement calculators. All too frequently a misinformed writer wages criticisms like the following:

- It doesn't include separate inputs for each spouse. (Answer: Who needs the complication? Just aggregate both spouses together. It's called community property for a reason.)
- It doesn't provide separate tax rates before and after retirement. (Answer: Who cares? Different tax rates would only be marginally meaningful if your income fell dramatically after retirement. Are you planning on poverty?)
- It doesn't include varying asset allocation with age. (Answer: You can't even model the performance of a single asset allocation accurately for 30 years. The idea that you can model a changing allocation with any greater accuracy is lunacy.)

Each of these critics is making the same mistake. They believe in the magic number myth. They seek to add more details and sophisticated modeling in the vain pursuit of increased accuracy when no such accuracy is possible.

The cause for this erroneous reasoning is they don't understand how retirement planning math works in practice. All those little details are dwarfed in significance by one or two critically important “big numbers” that will make-or-break your analysis. Get these big numbers right and all the other details barely matter. Conversely, get just one of the big numbers wrong and your analysis will fail completely no matter how many small details you got right.

What are those critically important numbers?

Critical Number 1: Percentage of income saved versus income spent.

In the article on my website, [How Anyone Can Retire in 10 Years \(or Less!\)](#), I demonstrate how a super-aggressive savings rate would allow you to skip all the calculators by reducing retirement planning to one simple ratio that forecasts with scientific precision how long it takes to become financially independent. The numbers are as follows:

- 10% savings rate = 42 years
- 20% savings rate = 32 years
- 40% savings rate = 21 years
- 50% savings rate = 17 years
- 60% savings rate = 14 years
- 70% savings rate = 10 years
- 80% savings rate = 7 years

Please note, these numbers are only scientifically valid for very high savings rates (i.e., 60%–80%) because longer time horizons introduce complications from compound returns and inflation. Lower savings rates (or longer time horizons) are shown for illustration only. [See the full article](#) for all the details.

This is not some crazy math theory. It explains exactly how I retired at age 35. I saved roughly 70% of a substantial income and never allowed spending to rise with income. It didn't take long for my assets to grow sufficiently large to support my lifestyle.

It's a brain-dead simple, scientifically accurate way to retire young and know with certainty how much money you need to retire. No fancy math, impossible assumptions, or retirement calculators required. It just plain works.

The principle taught by this critically important number is if you want to retire faster, then reduce your spending or raise your income so your savings as a percent of income grows. The higher the percentage, the faster and more reliably you'll reach the goal.

Again, don't get hung up on distracting details. Just pay attention to your savings rate in relationship to your earnings and spending needs. It's a critically important number.

Critically Important Number 2: Return on investment minus inflation.

The reason I spent so much time explaining the investment return assumption earlier in this book is because it's the most important number (along with inflation) determining your retirement failure or success. The relationship between inflation and portfolio return will literally make or break your retirement. It is The Big One. Nothing else comes close when planning retirement with paper assets.

The reason is simple—compound returns multiply little differences into huge differences over long periods. This isn't about turning mole hills into mountains; this is about turning grains of sand into the Himalayas. I'll repeat that point for emphasis because I don't want you to miss it. **Both inflation and return on investment have a compounded effect on your estimate for how much money you need to retire.** That's why they're so critically important.

But don't take my word for it. Prove it to yourself right now. Go to my [Ultimate Retirement Calculator](#) and enter the numbers that best represent your life situation. Seriously, do it before reading any further. Don't worry about perfection. Your best estimates from earlier in the reading are good enough for this exercise.

When inputting expected lifespan, use age 100 unless you have known health issues. Notice how the calculator allows you to reduce spending during retirement just like the research by Bernicke indicates. If you're just reading along but not taking action, then you're shortchanging yourself because you'll get a lot more value from this if you do the exercise right now. Please, don't just trust me; prove it for yourself. It'll only take two minutes and could be the most eye-opening two minutes you spend all week.

Once you fill out the [calculator](#) with your base level numbers, then write down the "magic retirement number" that it provides.

Next, try perfecting your magic number by tweaking a few variables like tax rate, retirement age, and other details similar to the critical comments cited earlier. The only rule is you can't touch the two key inputs highlighted in this chapter: return on investment and inflation. Everything else is fair game.

Notice that your magic number changes with each variation, but the changes are only marginal. Your estimates for how much money you need to retire remain in the same ballpark as your original number. The calculation is relatively stable.

Now, using the exact same inputs as before, raise your inflation rate by 2% while simultaneously reducing your return on investment by 2%, but make sure you're sitting down first.

See what I mean? For most people, this small change will literally multiply the amount you need to retire several fold. It should knock your original estimate right out of the ballpark, over the river, and into the next state.

That is why I call all the other variables “details” and label these two ratios “critical.” It’s just the way the math works.

Principle: Small changes in a few key numbers multiplied over long periods of time have huge impacts on your ability to retire with financial security. Therefore, focus on those key variables and don’t worry about the minute details.

The conclusion is clear: If you’re going to plan your retirement using the traditional asset-based model, then retirement calculators should only be used for scenario analysis, not determining your magic number.

- Use retirement calculators to model a wide range of variables to produce a confidence interval estimating the assets you supposedly need.
- See what happens if you add 10 years of additional income—part-time work, consulting, or whatever might interest you—to take the pressure off savings and allow your assets more time to grow.
- Try modeling real estate rental income that adjusts for inflation and rises when you pay off the mortgage.
- Try modeling what happens when you receive a lump sum inheritance or sell a home or business.
- Try modeling the difference between a conventional asset allocation and a dividend growth portfolio.
- Try modeling if it’s better to delay Social Security or start payments early.
- Try modeling several factors together.

In other words, use the retirement calculator to put numbers behind different life plans for your financial future. Each example will teach another principle just as the examples provided in this chapter and the next chapter teach principles. Retirement planning done right is really about life planning, not calculating magic numbers.

That is how you use retirement calculators properly, and that is why my [Ultimate Retirement Calculator](#) is designed specifically to facilitate a simple

process for scenario analysis. It allows you to easily model different life scenarios and see how the numbers work.

The [Ultimate Retirement Calculator](#) is designed with three specific objectives in mind:

1. It omits meaningless complication and non-essential detail, thus reducing barriers to completing the calculations. It's more important to plan retirement roughly than not do it at all. It's also important to not get so caught up in minute details that you deceive yourself into believing the output is scientifically accurate.
2. It provides a simplified platform so you can model various real-life scenarios using all three asset classes (not just paper assets, like competing calculators). No other calculator allows that flexibility that is essential for the way modern retirements are planned.
3. It allows you to quickly and easily build confidence intervals by varying single inputs and seeing how it affects overall output.

In short, this calculator is designed for scenario analysis—not mythical magic numbers—because that's what is useful when estimating how much money you need to retire using a traditional asset-based approach. The common mistake is to make the process all about asset accumulation when there's far greater value in the life planning aspect.

Calculators are best used for mapping a path and putting numbers behind your life plan. They're indispensable for seeing the financial impact of what-if scenarios so you can make better informed decisions about your future.

Scenario analysis is how you blend life planning with retirement calculators to engineer a realistic roadmap for achieving financial security. It's a practical approach for retirement planning that avoids the myths and traps that have unfortunately become conventional wisdom. It acknowledges the inherent limitations in designing an asset-based retirement plan and provides a practical solution.

Now that you know scenario analysis is the right approach for using retirement calculators, below are 4 rules to help you implement that scenario analysis wisely.

- **Walk Forward Process:** Don't perform the retirement savings goal exercise once, put it on a shelf, and then forget it. Instead, check back every few years and see what assumptions proved valid and which ones did not. Adjust your assumptions, recalculate, and shift your plans

accordingly. Rinse and repeat every few years. This way you'll hit your retirement target like a rocket constantly course correcting toward its target.

- **Errors Multiply:** Small errors in estimates compound into large errors in results. Retirement savings are built and spent over multiple decades. A 2% error in inflation or investment return that is manageable over 5–10 years is a complete disaster when compounded over 30–40 years. That's why you must regularly recalibrate over time based on actual results. Small details in key numbers cause huge differences, so pay particularly close attention to the key numbers.
- **Teach Principles:** Retirement calculators are invaluable for teaching essential retirement planning principles. Users quickly grasp how real return net of inflation is the most important number after just a few quick scenario tests. They also see the importance of time in compounding their way to wealth versus saving their way to wealth without the benefit of compound returns over time. They see the erosive effect of inflation by watching how their spending escalates out of control. Without a calculator these concepts are difficult to grasp, but with a calculator they become obvious for even a layman.
- **Maintain Flexibility:** Avoid calculators that limit your ability to change assumptions. It's shocking how many calculators pre-program assumptions for investment return, inflation, longevity, and other important inputs. When an assumption is hard-coded into a calculator, it reduces your ability to plan scenarios.

In other words, use retirement calculators to plan, test, and hypothesize your retirement future. They're extremely useful when properly applied with a clear understanding of their inherent limitations.

It may seem like the task is impossible given the magnitude of potential error, but with enough practice in scenario analysis, you'll find acceptable workarounds and solutions so you can plan your life in a way that will result in long-term financial security.

In the next chapter, I'll show you a variety of creative solutions in retirement planning that you can model using scenario analysis so you can save years off your retirement date, reduce risk, and increase your financial security at the same time.

Model 2

Creative Lifestyle Planning

Creative Life Planning Solutions For Retirement

Our life is frittered away by detail. Simplify, simplify.

Henry David Thoreau

As you can see from the foregoing discussion, there are a lot of mathematical models designed to calculate how much money you need to retire. Do they give different results? Yes, a little different but not all that significant.

For the standard set of assumptions, the range of expected withdrawal rates from savings varies between 3% and 5.5%. For purposes of this discussion on creative strategies, we'll use 4% to keep things simple (please see my companion book *The 4% Rule and Safe Withdrawal Rates In Retirement* for a complete analysis).

As you saw in the previous chapter, the whole retirement planning process breaks down to the question of figuring out how to get your annual expenses under 4% of your invested savings.

This 4% number comes from the big number showing the difference between your investment return and inflation net of volatility and sequence of return effects. In high valuation/low interest rate investment periods, you should consider keeping expenses under 3% of invested savings and in low valuation/high interest rate markets, you can consider being more aggressive toward 5%.

This simple relationship explains in just a few brief words why a man who needs \$20,000 per year is rich when he has a million dollars, and a man who spends \$150,000 per year feels poor with a million dollars—same portfolio but totally different experience.

Use these key relationships (expenses vs. assets and/or investment return vs. inflation) to find creative retirement planning solutions. For example, the obvious places to look that will make the biggest impact are to:

- Reduce your expenses.
- Increase your savings.
- Or increase the spread between investment return and expenses.

Where you get big variations in the amount of savings required to retire is by changing the assumptions you put into the model, not the model itself. For example, if you change your return expectations or inflation expectations, then the amount of savings required will change dramatically.

What this means is that you want to focus your retirement planning energy on what really matters: your assumptions. This is where the game gets creative and fun. **Readers frequently tell me this is the most empowering, life changing part of this book.**

It ties back into scenario analysis above. Right now, your retirement is a hypothetical scenario, but you can repaint the picture of your retirement to look any way you please by changing your life plan. That's what we'll do here by introducing a long list of alternative scenarios for you to try on for size like a pair of clothes. Some of them will fit and others will look hideous on you. That's okay, discard what you don't like and keep what you do like. Take your favorite ideas to my [Ultimate Retirement Calculator](#) for advanced scenario planning and watch how your numbers change before your eyes. It's serious fun.

The way this will work is that I'll start by defining the rules and parameters of the creative retirement planning game. Once the boundaries are defined, I'll offer a whole series of brainstorming suggestions to solve various assumption problems and manage certain risks. You'll pick and choose what fits your needs from the list to assemble your own personalized creative solutions.

Let's start with the first assumption: how much money you need to spend in retirement. The Rule of 25 tells you that for every \$12,000 you can shave off your annual retirement budget (\$1,000 per month), you'll reduce your savings required by roughly \$300,000. That's a big deal.

Most people find it a lot easier to live happily-ever-after on just \$1,000 per month less than to figure out how to save another \$300,000. Here are some possibilities:

- You could relocate to a smaller house in the same area.
- You could relocate to a lower cost area including those states without income tax such as Nevada, Washington, or Texas.
- You could travel full-time in an RV camping, fishing, and generally enjoying the outdoor recreation lifestyle.
- You could move to a lower cost foreign country like Mexico or Ecuador

or maybe consider a country with more favorable health benefits like Canada.

The list of ways to save money is endless. The smart strategy is to start with the biggest expenses—housing, taxes, and healthcare—and work your way down from there. That’s how you get the biggest financial improvement for any single life change made.

The key is spending less doesn’t have to mean less happiness, but it absolutely will mean a lot less savings burden. For example, I recently met a 72-year-old campground host having the best time of his life spending 8 months out of the year in the deep forest of Paradise, Oregon and the remaining 4 months with family or on the beaches of Mexico. He was putting money in his pocket and living with joy in some of the most beautiful scenery in the world.

Another example is [Billy and Akaisha Kaderli](#) who retired at age 38 back in 1991 using full-time world travel to drastically cut expenses while improving lifestyle. They augment income through a non-traditional business on the Internet sharing their early retirement story. The end result is financial freedom when most people were just opening a savings account.

The only limit to how far you can take this is your creativity. I have personally coached clients who reformulated their retirement for greater happiness while reducing their savings requirement by over \$1,000,000. They just got creative on what made them happy and completely reformulated their vision of retirement.

If you really want to get extreme, then maybe you can figure out how to live in retirement bliss on just \$25,000 per year allowing you to live off Social Security or a small pension and never save a dime. That may sound far-fetched, but use it as a challenge to reformulate what you really need to be happy. Retirement gives you a chance to start all over again, so toss your old spending rules out the door and question every assumption.

Now let’s look at the second assumption—how much Social Security and Pensions will provide—and get creative with that idea. To do this, it’s best to reframe this category into “residual income” because it opens possibilities as follows.

- Income-producing real estate can provide an income stream you never outlive with the added advantage that it grows over time to offset inflation.
- Income from a lifestyle business or hobby business reduces retirement savings needs just like reduced spending. For every \$1,000 per month

earned, it reduces savings needs by roughly \$300,000.

- Dividend-paying stocks can provide an income stream you can never outlive that historically has grown faster than inflation to preserve purchasing power.
- Fixed annuities can be purchased to provide income for life and often pay a higher yield than comparable fixed income securities like bonds. This allows you to shift the longevity risk to the insurance company.

For example, we assumed in our earlier hypothetical example a spending requirement of \$100,000 with \$50,000 coming from Social Security and pensions leaving \$50,000 to be made up from savings. The Rule of 25 shows that for every additional \$1,000 of monthly residual income you produce, you lower your savings requirement by roughly \$300,000. Let's say you fixed up an old house and rented it out for an extra \$1,000 per month above mortgage and expenses. You've just reduced your savings requirement by \$300,000 and added a source of income that should grow with inflation.

Now, let's put the first two steps together and see the combined impact. Let's say you downsize your home to a lower cost location and travel six months out of the year in your RV, thus lowering your spending from \$100,000 per year to \$75,000 per year. Let's also assume you prepared for your retirement by purchasing a 4-plex apartment building while in your 50s that is now fully paid off and produces an extra \$2,000 per month. Assuming you still get the \$50,000 from Social Security and a small pension, **your savings requirements are now basically zero**. You will want to have a little rainy-day nest egg, but you won't need the \$1,000,000+ nest egg. That's a radical difference in savings for just making two small adjustments over your lifetime.

And if that's not enough to get you really excited, let's play with the last assumption—your investment return minus inflation. Traditional retirement planning assumes you have a conventional, passive, buy-and-hold portfolio with conventional asset allocation that produces conventional returns. Let's assume 8% annual returns as a reasonable number. When you net out inflation (assume 3% for simplicity), that leaves 5% or 0.05 net return. Using the Dividend Discount Model and our previous example, you needed \$1,000,000 in savings to throw off \$50,000 in retirement income ($\$50,000 / 0.05$).

Now, suppose your investment skill produced 18% returns instead of 8%. The effect on the savings required is dramatic. Assuming 3% inflation again gives a net return of 15% or 0.15. Using the same Dividend Discount Model and dividing \$50,000 by 0.15 results in a mere \$333,333 required savings. **Notice how roughly doubling the return on your investment cut the savings**

required by two thirds. That is dramatic.

Now let's be realistic. I know most investors don't have the skill to produce outsized investment returns with consistency in the financial markets. Truthfully, very few professionals have the necessary skill. But it's entirely possible for people to produce outsized returns in non-traditional retirement assets such as real estate and business. Again, you're limited only by your imagination, skill, and determination. I'm just trying to show the possibilities.

What all this means is that you can make mincemeat out of traditional retirement modeling by getting creative with your assumptions. Now that you know how the game works, you can plan accordingly. You can acquire a rental property or two in your 40s and 50s so you have inflation-adjusting income for the rest of your life. You can learn investment skills now so you aren't bound by passive investment return assumptions when you retire. **These tasks may sound difficult to accomplish, but it's a lot easier than figuring out how to stash away an extra few million between now and retirement day.**

Below are some more creative strategies to consider when planning how much money you need to retire.

Buckets of Risk: Rather than treat your retirement income and assets as one big bucket, consider breaking it into two buckets: "must have" and "nice to have." The way this works in practice is to figure out what income is necessary for all your basic needs—food, water, shelter, health insurance, etc.—then supplement your fixed income from pensions and Social Security payments with enough inflation adjusting fixed annuities[\[18\]](#) to pay for all your basic needs, thus eliminating the risk that you will outlive your money.

This has several advantages.

- Fixed annuities may pay a higher return than your safe withdrawal rate. Insurance companies can afford to do this because they keep all the money not paid out to the people who die early.
- You transfer the risk of outliving your assets or having unusual investment losses to the insurance company and government.
- Your "basic needs" number is smaller than the "all expenses included" number making retirement savings less daunting.
- You can afford to play the probability games a bit tighter and be a bit more aggressive on your spending with your remaining assets because if that portion of your savings only lasts to age 85, it's not a catastrophe

– your basic needs are still covered and you enjoyed spending the money while you still had your health.

I really like this strategy—a lot. You may want to seriously consider it. It's a simple but elegant solution to more problems in retirement planning than space allows to explain. The more you play with this solution, the more you'll find to like about it.

If you choose this approach and purchase annuities, it's very important to check the financial strength of the insurance company you buy from before committing your hard-earned dollars. An insurance contract is only as strong as the company that stands behind it. Additionally, just in case something goes wrong, you should know the limit for guarantee association coverage in your state and should consider diversifying your annuity purchases to stay within coverage limits by only buying limited amounts from each provider. In other words, if your state's guarantee association limits coverage to \$100,000, then don't buy more than \$100,000 of coverage from any one provider.

Extreme Frugality: Most people increase their expenses and lifestyle as their income rises. I chose not to do that by living a college student lifestyle on a very high income as a hedge fund manager thus saving 70% of everything earned and retiring comfortably at age 35. This approach is not for everyone, but it's proven effective. It was easy for me because my income was large and my needs were small as a single male who loved books and outdoor recreation. Other people achieve the same result on much lower incomes than mine by living in an RV, using public transportation or riding a bike, shopping in thrift stores, and growing their own food.

Stated another way, some people prefer to work at saving money rather than work at earning it. It's not for everyone, but I'd be remiss not to list it because it's a very effective strategy since every \$1,000 per month you don't spend is \$300,000 you don't need to save. Extreme frugality can knock millions off how much money you need to retire and make you financially independent in just a few years—albeit, at a low spending level.

Time: Authors love to write about the magic of compound returns, but the truth is that it's irrelevant when time is short—which brings us to our next creative principle. If your retirement time horizon is short, then you're basically dealing with a spending and saving equation. The issue is how much can you save and how little can you be happy spending because investment considerations won't make a material difference. It takes many years for a 2% increase in investment return to demonstrate its value.

Conversely, if your time horizon is long (i.e., a 20-year-old planning to retire at 60 and live to 100), then investment return net of inflation will dwarf all

other numbers combined. In other words, it's important to match the creative strategies you implement to your time horizon. When time is short, focus on saving and spending, and when time is long, focus on investment return net of inflation. This is a key principle.

Convert Hobbies Into Income: Maybe you love to fly airplanes, build wire sculptures, sew, or, in my case, write about finance. You can convert that passion into income. Even if it only pays \$2,000 per month, that can take tremendous pressure off your savings, give you a sense of purpose, connect you to a community, and give you a sense of contribution. When it is work that you love, then it's not work at all.

Phased Work: The biggest problem with most jobs is that they leave no time for living your life. Rather than quit cold-turkey, consider a part-time or phased career. For example, an accountant could prepare tax returns during the busiest 5 months of the year and take the other 7 months to travel the world or pursue any other interest while still making enough money to live on. A real estate professional could work as a team member to a top performing sales leader during the busy summer season and spend the winter skiing.

Alternative Sources of Income: Maybe you could build a "mother-in-law" quarters or convert an unused basement into a rental unit that produces perpetual income in your retirement. Or maybe you sell that big house that's empty now that the kids are gone and convert the equity into a duplex or 4-plex so you have rental income you can never outlive. What's great about this strategy is you don't have to tie up more of your assets in real estate, but your passive income increases. You get more cash flow for the same equity.

Inflation Risks: If you're concerned about inflation, then consider investment strategies specifically designed to manage that risk. For example, on the fixed income side you may want to choose TIPS over regular bonds, while on the equity side you may want to look at dividend growth stocks[\[19\]](#) over traditional equity allocations[\[20\]](#) to capture the fact that both dividend payments and stock growth rates have historically outpaced inflation. Similarly, you can purchase rental real estate with the expectation that your rental rates will grow with inflation along with the value of the property. The advantage with this investment strategy is it simplifies the math by eliminating inflation growth both from the expense and the investment side of the equation when calculating how much you need to retire. Just be careful to reduce your investment returns accordingly if you decide to pursue this approach since much of the historical investment return is really just inflation.

Retire Based on Market Valuations: Match the amount you can spend from your retirement nest egg to what research says can be supported given market valuations and interest rates on the date you retire. In other words, rather than

choose your spending based on your income needs, choose your spending based on what research says your assets and market conditions can support. If the markets are in the top quartile of historical valuations when you retire, then start with very conservative spending plans. You might even want to consider inflation-adjusting fixed annuities instead of a traditional 60/40 asset allocation mix. If you are lucky and the investment markets are in the bottom quartile of historical valuations when you retire, then maybe you can afford to plan for more aggressive spending from savings. If you really want to push the envelope on this idea, then consider choosing your retirement date based on market valuation to give you the best odds of investment success during the critical first 10–15 years when you need it most.

Longevity Risk Management Strategies: If you're worried about outliving your assets, there are three great strategies to consider. The first is to annuitize[\[21\]](#) enough of your assets to cover at least your basic living expenses. This shifts the risk of living a very long life to your insurance company. Alternatively, you could purchase longevity insurance annuities[\[22\]](#) that only start paying at an advanced age, such as age 85. They are quite affordable and will allow you to budget a higher level of spending from your other assets knowing the annuity will kick in if you live longer. Finally, the third strategy is to budget your spending to last until age 85 while living in your fully-paid-for home. If your money runs out before you die, then you can just sell the home or do a reverse mortgage to harvest the equity and pay for any additional years.

Change Your Spending Pattern: Much of the research into safe withdrawal rates from your retirement savings assumes you increase spending each year based on inflation. If you change that assumption, you can increase your spending in your early years of retirement when your health and vitality might allow travel and recreational opportunities. For example, you might only allow spending increases for inflation during years when your portfolio increases in value. Alternatively, you could fix your spending as a percent of your portfolio regardless of the portfolio value so you only get increases when the portfolio goes up and suffer through decreases in spending when the portfolio goes down. Both of these spending plans will allow a higher percentage of spending in the early years while reducing risk of failure.

In summary, by adding a little creativity you can live the retirement of your dreams a lot sooner and with a lot more security than you ever imagined possible. I did it myself by retiring at age 35 and so have many of my coaching clients. You can, too.

Model 3

Cash Flow Planning

Special Bonus: My Simple Three Rule System That Allowed Me To Retire At Age 35

The ability to simplify means to eliminate the unnecessary so that the necessary can speak.

Hans Hoffman

Now that you understand how to get creative with your assumptions and play with your numbers using nothing more than a pencil and paper, I'll show you my own personal model for retirement planning. It doesn't use any fancy calculators and doesn't apply any arcane assumptions. It is the very same model I used to retire at age 35 with security and confidence.

Truth be told, this book is just an outgrowth of my own journey to determine how much was enough to retire at the ripe old age of 35. I analyzed all the various mathematical models, investigated the assumptions required, and found the whole experience less than satisfying. Hopefully this compilation of what I learned has helped you shortcut the lengthy and tedious learning curve I went through.

My belief is that it pays to keep things simple. Complicated math is usually more symptomatic of covering up ignorance than expressing wisdom. If Einstein could accurately express the mechanics of the universe in a simple equation, then it seems reasonable that estimating the savings required for retirement should be a little less daunting. The assumptions used in retirement planning are arcane and impossible to estimate accurately, as we already discussed. When I started tinkering with the idea of financial independence in my 30s, I figured there had to be a better way to figure out how much money was enough.

As it turns out, the process is far simpler than you have been led to believe. The various assumptions and estimates required by all the standard models are surprisingly unnecessary. The result was that I developed a simple three-rule system that bypasses all the mess. This simple three-rule system requires no life expectancy estimate, no inflation estimate, and no investment return estimate. In fact, you make no assumptions at all because it's entirely based on real time results. Here's how it works:

The first rule is that you must build an investment portfolio that throws off

residual income in excess of personal expenses. Please note that the income referred to here doesn't have anything to do with total investment return, but only refers to residual income. **You can only spend the income thrown off by the assets, but the assets themselves can never be touched.** This distinction is important. It's what sets this strategy apart.

When the passive income from your portfolio is more than you spend on living expenses, then you're infinitely wealthy, no complicated math required. You simply build wealth and acquire assets until passive income exceeds expenses. This income can come from a traditional portfolio or it could come from businesses and real estate. The only rule is that passive income exceeds expenses. **At this point, your life expectancy is irrelevant because you can never outlive your income.** Budgets and lifetime spending forecasts are irrelevant because you're only allowed to spend the income your portfolio throws off. Your portfolio income defines your budget for you.

The second rule is that you must manage your assets so that growth (total return-income) is greater than the inflation rate. **This takes care of the inflation monster because the growth component of your portfolio exceeds inflation.** You might achieve this objective with a growing stock portfolio or it could be less traditional using real estate and business assets. However, what will not work is income coming 100% from a laddered bond portfolio[23]. The reason is because your growth is zero since total return and income roughly equal each other over time. This means that over the long term, the inflation monster will likely eat your all-bond portfolio for lunch while you live off the fixed income. Not a good thing.

Alternatively, if your cash comes from appreciating assets like properly valued, dividend paying stocks and positive cash flow rental real estate, then over time those assets are likely to grow with inflation and your income should likewise grow. **As long as the difference between your total return and the income from your assets exceeds the rate of inflation, then you can remove any need to estimate future inflation from your calculations. It becomes a non-issue.**

The third and final simplifying rule is that your passive income must come from multiple, non-correlated sources. A reasonable mixture of TIPS, dividend paying stocks, income producing real estate, inflation-adjusting fixed annuities, and alternative investment strategies would satisfy that requirement. It's also possible to mix in some passive business income, royalty income, Social Security income, pension income, and other sources.

What you don't want to do is retire based on one source of income. For example, many airline employees retired solely on their company pensions only to have them decimated when certain airlines went through bankruptcy

and restructuring. They had no fall-back position and had to cut lifestyle or go back to work. Similarly, many dot-com millionaires went back to work after the technology stock bust from 2000–2002.

The message is clear: diversify your assets so if any one source of income gets wiped out you can still survive comfortably and buy yourself enough time to eventually recover.

You should be no more willing to bet your entire retirement on an insurance company's ability to pay an annuity than you would rely on the government to honor its promises for Social Security. It's okay to make each one a piece of your retirement equation, but each income source has risks which must be managed. **Never leave yourself exposed to a single default that can wipe out your financial security.**

A fourth bonus rule also exists, but it isn't necessary. Think of this bonus rule as an insurance policy against the unknown factors in life ruled by Murphy's Law. To be very conservative, don't retire until your cash flow exceeds what you spend so you have money left over to reinvest for future growth. This provides the last added measure of insurance to cover against unexpected surprises, lost income due to default, catastrophes, excess inflation, etc.

Reinvesting excess revenue allows you to compound your way back over time from any adverse circumstance.

There you have it, three simple rules (plus one bonus rule for the very conservative) with no arcane assumptions or calculations. If you can do basic math, you can plan your retirement. You can retire at any age without worrying about inflation or longevity. **You don't have to foresee the future or estimate the impossible. You can absolutely, definitively know when you have enough to retire. All you have to know is your current spending, the return on your assets, and whether or not those assets tend to grow in value with inflation. It is as simple as simple gets and totally accurate, also.**

Some may disagree with this three-step plan as being too conservative or difficult to achieve because it usually requires more assets than other models because you can't spend principle and it doesn't rely on capital growth to fund spending. Most of the criticism directed at this three-step process comes from the financial planning community claiming the goal is too lofty for the masses that got a late start or had a poor plan.

My reply to that criticism is, "The numbers are the numbers." **Nobody is served by deception.** You can offer easier alternatives that require a lower total savings amount, but that easier goal introduces a higher level of risk. The problem is you'll never know if that risk will bite you in the rear until it's too

late. You might be right, you might be wrong, but you won't ever know until after the fact—when it is too late to do anything about it.

Others may choose differently: they may have greater confidence in making the necessary assumptions than **they have in acquiring the assets to make the assumptions unnecessary**. It's really a personal choice. At my age, it's easier to build the assets than to make assumptions 50 years into the future. Your situation and preferences may be different.

The main thing to note is how every other model, including those shown in this book, relies on history as a guide. This is the only model that requires no historical analysis. This is important because the past is not the future. I spent a decade researching mathematical and statistical trading systems for the financial markets and no historically-derived trading system ever performs in the future like it did in the past. Similarly, no historically-derived retirement scenario can be relied upon for the future. That's just the reality of financial modeling, and that's why I like this strategy—it makes historical modeling irrelevant.

The other reason I like this three-rule model is that the bulk of my assets are non-traditional, so they don't fit well within the confines of traditional retirement planning. However, the flexibility of this super-simple model allows you to combine any and all assets under one analysis. Everything fits, whether it's business, investment property, stocks, bonds, annuities—you name it. All assets are welcome. It all fits under this one roof.

Finally, the last advantage to this three-rule system cannot be overstated: it avoids poverty consciousness. When retirees live off their assets and progressively spend their way toward zero assets, a tragic phenomenon occurs: they feel impoverished and begin guarding every penny. It's a natural response to watching your assets dwindle as you spend them down and it's extremely unfortunate. After all, you can't exactly call them your "golden years" if you spend your retirement watching every penny.

However, my three-rule cash flow-based model completely eliminates poverty consciousness because you're only spending income. You feel perpetually wealthy, abundant, and financially secure. The value of this cannot be overstated when contrasted with a traditional asset-based model.

The lesson I've learned through coaching clients on these issues and personally fumbling with most everything taught in this book is that **most people are focused on a flawed risk model. The real goal is sustainable spending, not portfolio value. That's why this simple cash flow model works so well. Assets are just the middleman that throws off the income and is at best loosely correlated to what really matters: spendable money**

to pay the bills. That one sentence packs a lot of punch, so please read it twice. It can change how you plan your retirement. It can change the types of assets you acquire, when you choose to retire, and of course, how much money you need to retire.

That's the fascinating thing about the three-rule system—it changes your investment strategy as well because not many assets satisfy all three rules. No longer does it make sense to speculate on stocks going up in value or speculating on land deals to build wealth when the focus is directly on acquiring assets to build cash flow that grows with inflation:

- On the fixed income side of the equation, you'll tend to favor TIPS and inflation-adjusting annuities over traditional bonds where the fixed payment loses purchasing power over time.
- On the equity side, you'll tend to favor a diversified portfolio of dividend growth stocks over conventional asset allocation based on market capitalization or investment style. Research shows dividends have increased at a rate 2% greater than inflation plus the stock portfolio itself grows over time to reflect growth in the world economy.
- Direct ownership of real estate will gain appeal both because it's a real asset that increases in value with inflation and because you can't outlive the rental income which tends to grow with inflation.

Really, this is one of the simplest, most robust retirement planning strategies in existence. It's so simple that it's deceptive. You just spend your working career acquiring income-producing assets that grow with inflation until your passive income exceeds your expenses. At that point, you're infinitely wealthy—no assumptions, predictions, or complicated math. More importantly, it also avoids the poverty mentality from spending investment principal. It literally changes everything about retirement planning with one critically important shift of perspective from assets to passive income.

Conclusion

Contradictions do not exist. Whenever you think you are facing a contradiction, check your premises. You will find that one of them is wrong.
Ayn Rand

In this book I've provided three different retirement planning models for you to work with when figuring how much money you need to retire:

- The first model gave you an extensive depth of knowledge into the problems and challenges with traditional asset-based retirement planning. This was essential so you understood the risks associated with this model and it set the stage for why the other two models were necessary. At the end you were given multiple workaround solutions to make the traditional asset-based model usable.
- The second model provided an extensive menu of creative retirement planning tools to pick and choose from so you could solve savings shortfalls and retire far earlier with greater financial security than you previously thought possible.
- The final model explained my three-rule system for a cash flow-based retirement that is simpler and more robust than any other retirement planning model available.

I would be remiss in concluding this book if I didn't share with you my own conclusions for best practices after years of walking the talk and working with many coaching clients on these issues. There are really only two models I remain comfortable with given all the uncertainty: the "buckets of risk" model explained in the creative solutions chapter for traditional asset-based retirement planning, and of course, my three-rule system for income-based retirement planning. You would be well served to implement either of those models for your own retirement.

You're now armed with the knowledge and tools necessary to make an educated and well-reasoned decision that fits your personal situation. My sincere hope is you will put all of this knowledge to work in building an abundant and financially secure retirement so you have the means to live with happiness and fulfillment.

Afterword

If this book helped you by delivering on its promise, then please tell others with a quick review.

If you're less than 100% satisfied, then please write me at todd@financialmentor.com so I can personally refund your money and correct any shortcomings, thus improving the product.

Your review truly matters—Seriously, it doesn't have to be anything complicated. Just a quick 2–3 sentences sharing what value you got from the book or a couple of highlights to help others know if the book is helpful or not. I read each and every review and really care.

Thank you in advance for your support.

Bonus Material

This book is not just what you hold in your hands. There was so much more that I wanted to include but couldn't without losing focus and brevity. Here's a sampling of articles on my website that serve as an appendix of related education to help you implement everything you learn in this book.

- ***How Anyone Can Retire In 10 Years... Or Less!*** Surprisingly, it's not that hard. Anyone can do it but almost nobody will. Discover why...
- ***8 Shortcuts For A Simple Retirement Plan*** A quick overview for those who want retirement planning made easy.
- ***12 Tips To Build Wealth For Early Retirement*** How to retire early and wealthy.
- ***5 Essential Questions For Pre-Retirement Planning*** Discover the "what", "where", "when", and "how much" of pre-retirement planning so that you can prepare for a successful transition into retirement.
- ***Pension News: You're On Your Own For Retirement*** Socialized retirement planning is out and individual plans are in.
- ***Retirement Planning Checklist*** Here is a checklist to guide your retirement planning at each stage of life so that you don't miss a single, important step.

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THE 4% RULE

AND **SAFE WITHDRAWAL
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TODD TRESIDDER

If retirement is looming close or if you're looking for financial freedom at any age, you need to know the answer to this critical question: What is the maximum amount of money you can withdraw from savings without running out of money before you run out of life?

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This brief book unmask the myth perpetuated by the conventional “rule of thumb” and replaces it with a step-by-step model for accurately figuring your safe withdrawal rate. No retirement plan is secure without this knowledge.

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About the Author



Todd R. Tresidder's financial writing has been featured in the Wall Street Journal, Smart Money Magazine, Investor's Business Daily, Yahoo Finance, Bankrate.com, and more. He is a former hedge fund manager who "retired" at age 35 to become a financial consumer advocate and money coach. In his spare time he's an outdoor recreational enthusiast with varied interests from backpacking and adventure travel to endurance running and cycling. He writes 9 months out of the year from his home in Reno, Nevada while his kids are in school and plays the rest of the year. You can learn more about Todd at www.financialmentor.com.

<https://www.financialmentor.com>

Endnotes

[1] **Hedge Fund:** A private investment pool usually arranged as a partnership and subject to accredited investor rules to qualify for investment. Hedge funds will typically employ complex investment strategies, leverage, and/or derivative securities to try and earn non-correlated and above-market investment returns in an effort to justify their above-market fees and liquidity limitations.

[2] **Monte Carlo:** An analytical method used to estimate the probability of certain outcomes occurring by running a large number of simulations using random variables.

[3] **Confidence Interval:** Attempts to define a range within which the desired answer is estimated to lie and indicates how precise that measurement is. It's used when single point estimates are not sufficiently reliable for decision making. It measures the probability that a value will fall between an upper or lower boundary. For example, a 95% confidence interval means that 95 times out of 100 the result should be within the upper and lower boundary of the range with it falling outside the range 5 times.

[4] **Backcast:** An attempt to estimate a potential future outcome by testing backward on historical data.

[5] **Safe Withdrawal Rate:** The highest withdrawal rate, expressed as a percentage of the account balance on the first day of retirement, and adjusted for inflation annually, that allows for a lifetime of withdrawals without running out of money before you run out of life.

[6] **Market Valuation:** The price at which investors buy or sell common stock and bonds in the market relative to a fundamental indicator. Typical measures include price/earnings ratios, Q ratio, price/dividend ratio, price/sales ratio and more. A high market valuation indicates a high price relative to underlying business fundamentals and a low valuation indicate a low price relative to underlying business fundamentals.

[7] **Quintile:** The portion of a distribution containing one fifth (or 20%) of the total.

[8] **CAPE:** Developed by Robert Shiller, it is the ratio of stock prices to the moving average of the previous 10 years earnings, deflated by the consumer price index.

[9] Compound Return: The rate of return, expressed as an annual percentage, representing the cumulative change in value from the daily gains and losses earning a return on themselves.

[10] Average Return: The rate of return computed by adding all the individual returns together and then dividing by the quantity of individual returns in the set.

[11] Dollar Cost Average: A method of investing a fixed amount of money on a regular schedule regardless of price causing more shares to be purchased when prices are low and fewer shares to be purchased when prices are high.

[12] S&P 500: A market value weighted index of 500 stocks chosen by analysts at Standard and Poor's corporation.

[13] Quartile: The portion of a distribution containing one fourth (or 25%) of the total.

[14] P/E: The ratio of market price for a company's stock divided by its earnings per share thus representing how much investors are paying for that company's earnings stream.

[15] Investment Holding Period: The amount of time between purchase and sale that an investor owned a security.

[16] TIPS: Treasury Inflation Protected Securities – A bond issued by the U.S. Treasury in 5, 10, and 20 year maturities providing a fixed interest rate but the principal value indexes to inflation to protect purchasing power.

[17] Large Cap Equities: Stocks with a market capitalization greater than \$10 billion.

[18] Fixed Annuity: An insurance contract providing a fixed payment stream for life in exchange for a single lump sum purchase. An optional feature is to increase the payments over time based on the rate of inflation to protect purchasing power for the investor.

[19] Dividend Growth Stocks: Equities of companies with expanding earnings and sales that increase their dividend payout to investors on a regular basis.

[20] Equity Allocation: A strategy of apportioning an investment portfolio between various asset classes (e.g., stocks, bonds, cash) that attempts to match risk and reward to the investor's goals and risk tolerance.

[21] **Annuitize:** To convert a sum of money into a series of payments.

[22] **Longevity Insurance Annuity:** An immediate annuity that defers payments until a future date. For example, an annuitant could purchase longevity insurance at age 65 that pays \$5,000 per month beginning at age 85.

[23] **Laddered Bond Portfolio:** A portfolio of fixed income securities having evenly spaced maturity dates with the intention of reducing interest rate risk.